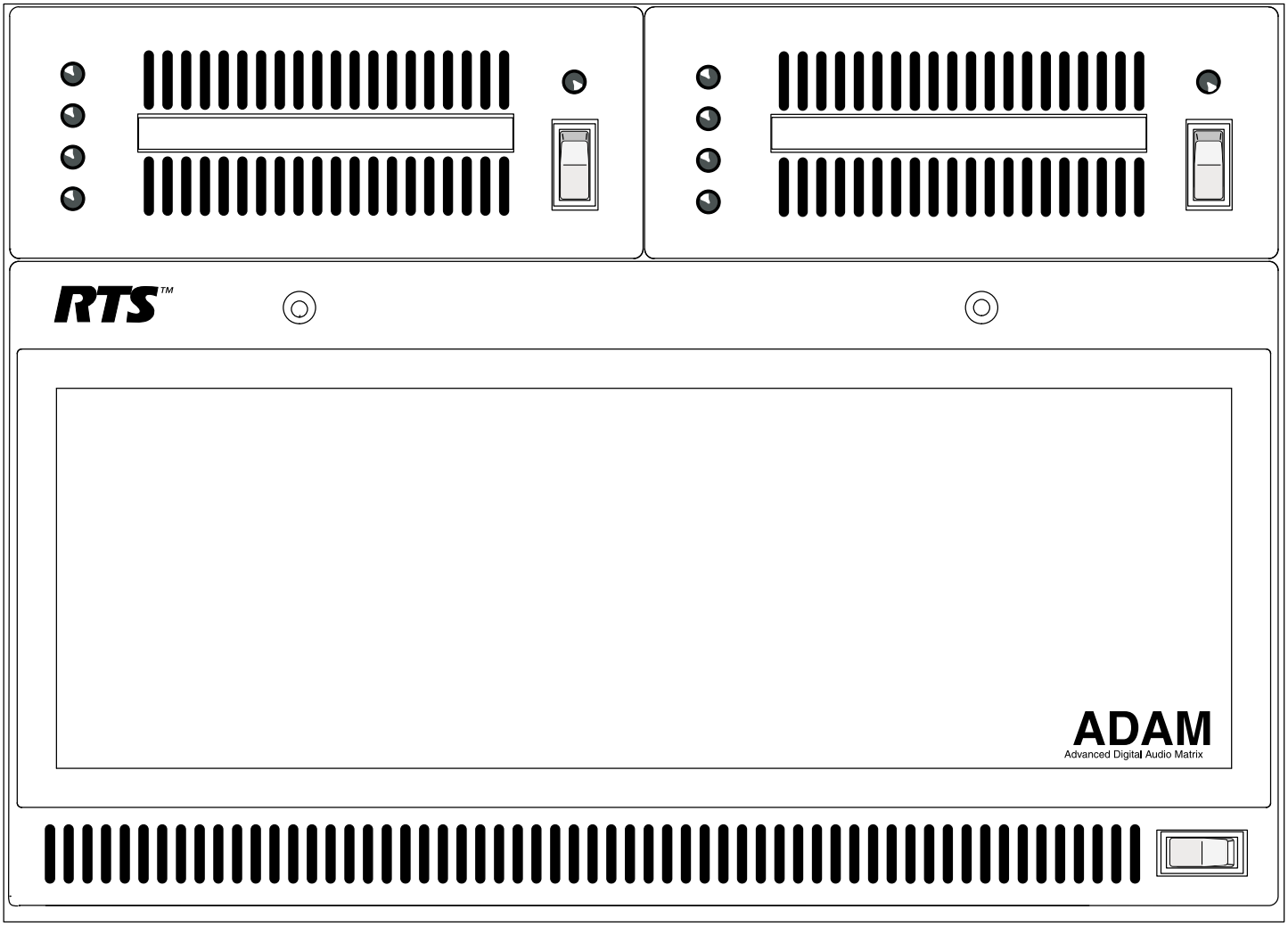
RTS® Digital Matrix Series
Intercom Systems

ADAM™
Advanced Digital Audio Matrix
System Installation Guide



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Factory Service Department
Telex Communications, Inc.
8601 East Cornhusker Hwy.
Lincoln, NE 68507 U.S.A.
Attn: Service

This package should include the following:

ADAM FRAME, 110 V

Quantity	Description	Part Number
1	ADAM Frame, 110V	9020-7500-002
1	Box, ADAM Chassis	590133-004
1	Cable, RS232C, Data	9020-7297-05
1	System Manual	9370-7500-010
1	Warranty Statement	38110-387

ADAM FRAME, 220 V

Quantity	Description	Part Number
1	ADAM Frame, 220V	9020-7500-003
1	Box, ADAM Chassis	590133-004
1	Cable, RS232C, Data	9020-7297-05
1	System Manual	9370-7500-010
1	Warranty Statement	38110-387

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CHAPTER 1

Introduction

Unpacking the Components

Unpack the contents of the shipping crates and carefully inspect for damage. Notify the freight carrier immediately if any damage is noted. Check off all items as noted in the packing lists.

SAFETY TIP: Use caution when lifting the system components. A fully loaded ADAM Card Frame, for example, weighs approximately 75 lbs (34kg).

Mounting the Central Matrix Components

Bolt the ADAM Card Frame into the front of the equipment rack. The frame has no special ventilation requirements, but make sure the ventilation holes on the front and back are unobstructed. The rack space behind the ADAM Card Frame should be kept completely clear to allow for connections and the insertion and removal of back cards (at least 2 feet).

Note, there is an LED fail indicator and reset switch located near the top-front of each front card. The LED indicators are only visible when the center of the card frame is at or above eye level.

Station Breakout Panels and Translation Panels are usually mounted in the back of the equipment rack, and are generally arranged to allow intercom station cabling to exit the frame at the top or bottom, as required.

Optional UIO-256 Frames should be mounted in the front of an equipment rack. When positioning a UIO-256, consideration should be given to the visibility of the front panel LEDs, which provide visual indication for any active inputs and outputs.

Optional Program Assign Panels should be mounted in the front of an equipment rack. Generally, a PAP should be located slightly below eye height when sitting or standing to allow for viewing of the front panel indicators and easy activation of the front panel controls.

ADAM Circuit Cards

Front Card Access

Loosen the thumbscrews that secure the front glass door, and swing the door down.

Card Removal and Installation

All ADAM circuit cards can be “hot-installed”, which means you do not have to turn the power OFF before installing or removing a card. This permits continuous operation of the intercom system - with no interruptions to unaffected ports - in the event of a card failure.

READ THIS BEFORE INSTALLING CIRCUIT CARDS!

The connector pins on the back plane inside the ADAM frame can be easily damaged by improper or hurried insertion of the circuit cards. Always use the following procedure when inserting cards:

1. Begin installation with the back card. Orient the card so the edge connector is toward the bottom.
2. Insert the card edges into the upper and lower guides in the back of the ADAM frame. Push the card in until the mounting plate is flush with the ADAM frame.
3. Install mounting screws in the top and bottom of the card plate to lock it in place.
4. When installing a front card, orient it so the indicator LED and reset switch are at the top-front.
5. Insert the card edges into the upper and lower card guides in the front of the ADAM frame.
6. SLOWLY push the front card straight into the slot until initial resistance is felt.
7. When initial resistance is felt, apply slightly more pressure to begin engaging the connector pins.
8. Once the connector pins have started to engage, press FIRMLY to completely seat the connectors. When the card is properly seated, the card mounting plate should be flush with the ADAM frame.
9. Mount screws for the front cards are not required, but are recommended for mobile installations.

To remove a front card, press down on the lower ejector lever and up on the upper ejector lever. Once the card is released from the back plane connector, pull it straight out of the frame.

To remove a back card, first release the front card by pressing the ejector levers, then remove the back card.

IMPORTANT: All system clock signals are derived from the Audio Input/Output (AIO) Card in slot number 9, with clock backup in slot number 8. Therefore, if your intercom system uses fewer than ten AIO Cards, make sure that slots 8 and 9 are filled in any case. Also, never remove cards 8 and 9 at the same time as the intercom system will cease to operate.

NOTE: When a front or back audio card is removed, the displays on any keypanel connected to that card will display asterisks instead of the normal key assignments. After a card is reinstalled, it may take a minute or two for the keypanel displays to return to normal.

Unused Back Card Slots

To ensure proper air flow, each unused back card slot should be fitted with a card blank (p/n 9000-7467-003) to cover the opening.

Master Controller Card DIP Switches

As shipped from the factory, all master controller card DIP switches are set to the default operation position. These settings will be satisfactory for most applications. Optional settings are summarized in Table 1 on page 11 or Table 2 on page 12. If any changes are made to the settings, make sure both the main and backup controller cards are set the same.

Power Supply Removal and Installation

Place the power switch on the front of the power supply in the OFF (O) position before removal. Loosen the two captive thumbscrews on the front of the power supply, then grasp the screws to pull the power supply out.

To install a power supply, set the power switch on the front of the supply to the OFF position. Push the power supply firmly into the slot in the ADAM frame so that the connector sits properly in the slot, then tighten the captive screws.

AC Power Connection

1. Place the AC switches on the back panel of the ADAM frame in the **OFF (O)** position.
2. Place the power supply ON/OFF switch on the front of each power supply in the **OFF (O)** position.
3. Connect **AC power** to both of the AC jacks on the back of the ADAM Frame.
   Connecting both AC inputs will assure continued operations of the ADAM Frame in the event that one power supply fails. If desired, two separate AC power phases may be connected. This will protect not only against a power supply failure, but also against a loss of power to one phase.

ADAM Frame Power-Up

NOTE: For proper power supply loading, at least two front cards should be installed in the frame before turning on the power supplies.

1. Place the AC switches on the back of the ADAM Frame in the **ON** position.
2. Place the ALARM OVERRIDE switch on the front panel in the **ON** position.
   The alarm should sound while the power supplies are OFF.
3. Place the ON/OFF switch on the front of each power supply in the **ON** position.
   The POWER GOOD indicators and all voltage indicators should light. The fans should turn ON. The alarm should shut off.

While the intercom system is initializing, the red LED fail indicators will be lit on all circuit cards. Allow 15 to 30 seconds for all indicators to turn OFF.

Circuit Card Reset and Fail Indication

Each front card is equipped with a reset button located near the top-front of the card. Directly under the reset button is the red LED fail indicator. The LED indicator remains OFF during normal operation. If the fail indicator turns ON, first attempt to restore normal operation by momentarily pressing the reset button. Allow 15 to 30 seconds for reset. If the fail indicator does not turn OFF after this time, replace the affected card.

Alarm Operation

If there is a power supply fault during operation, the audible alarm will sound and one or more indicator lights on the affected power supply will turn OFF. To deactivate the alarm, set the ALARM OVERRIDE switch to the OFF position. Turn OFF the defective power supply, and repair or replace it as soon as possible to assure continued backup protection in the event of another power supply failure.

NOTE: The power supply alarm will also sound if a power supply is turned OFF. This is normal. Either turn ON the power supply, or turn OFF the ALARM OVERRIDE switch.

Specifications

Matrix Size ..... 8 - 1000 ports

Matrix Type: ..... Digital Audio, TDM Bus

Signal Format: ..... 44.1 KHz, 24-bit

Audio Levels: ..... +8 dBu nominal, +20 dBu max (adjustable ± 20 dB by user)

Frequency Response at 20 dBu: ..... within ±1dB from 15Hz to 20KHz

S/N Ratio: ..... >85 dB A-weighted at 22dBu

THD+N ..... <0.005% at 22dBu, 1 KHz (unweighted)

Trunking ..... RTS Intelligent Trunking

Input Impedance: ..... 22K Ohms

Output Impedance ..... 600 Ohms

Redundancy ..... Power / Controller

Matrix Frame: ..... 7RU (12.25”) high, 19” EIA Rack, 20” deep

Power: ..... 110V, 220V, 50/60 Hz, 1000VA maximum

Approvals: ..... UL CSA CD VDE FCC

Temperature

- Operating ..... 0°C - 70°C (32°F - 158°F)
- Storage ..... -50°C - 125°C (-58°F - 257°F)

CHAPTER 2

Intercom Port Connections

General Information

Typically, devices are connected to individual intercom ports using Station Breakout Panels as shown in the in the drawings starting on page 33. Depending on the type of breakout panels being used, the individual intercom stations will utilize either RJ-11 modular style intercom cables, or 9-pin D-sub cables. Wiring diagrams for both are shown in the Figure 22, “Intercom Station Cables,” on page 54.

Each intercom port supplies two pins for audio input, two for audio output, and two for data. All audio connections are balanced, dry lines. All audio inputs and outputs are set for unity gain by default: whatever level is applied at an input will be supplied at the output. Input and output levels may be adjusted for individual ports, if required. This may be accomplished either from AZedit or from individual keypanels.

Various types of intercom stations are generally connected to the intercom ports, but other types of audio devices could also be connected. For example, a program source could be connected to the audio input for an intercom port, and in this case the audio output pins are available for other functions.

The data wires for an intercom port are used to send and receive control information between the connected device and the ADAM AIO card. The data wires are only used by keypanels, by the TIF (Telephone Interface), and by CDP-950 Camera Delegate Panel. The type of data transmitted includes key press information and display information. For example, when a key is pressed on a keypanel, this information is sent on the data wires to the ADAM frame. The AIO card talks to the Master Controller, the ADAM frame then makes the necessary talk and listen connections so that a conversation can take place. It also sends data to the device being called; for example, to display the caller’s name at a keypanel, or to activate a telephone line at a TIF interface.

Logical Keypanel Numbers

Even though separate data pins are provided for each intercom port, these pins do not actually represent a unique data port. Rather, groups of intercom ports share a common data port. In an ADAM intercom system, data groups consist of 8 intercom ports, and each Audio Input/Output card represents 1 data group. To distinguish between devices connected to the same data group, a “Logical Keypanel Number” (1 through 8) is assigned to each device at the time of connection. The relationship between intercom port numbers, Audio I/O Cards and Logical Keypanel Numbers is shown in Table 3 on page 13. Specific information about setting Logical Keypanel Numbers is discussed further in the installation notes on the following pages.

NOTE: AIO-16 Cards consist of 16 ports per card, double the number of ports the AIO card contains. Also, the AIO-16 is a “smart card”, which means when it is inserted into an ADAM frame, it automatically figures the back card configuration and protocols being used. The AIO-16, unlike the AIO-8, is not constrained by logical keypanel numbers or addresses completely, because each port has its own data driver.

General Procedure for Connecting Devices to the Intercom

The following is a suggested method for planning the intercom system and connecting devices to intercom ports:

- Make a copy of the Intercom System Planning Worksheet, see Table 10 on page 17. (Or create your own custom tables using your favorite spreadsheet or database program).
- For each device that will be connected, fill in a row in the worksheet.
- Breifly note, the device type (keypanel, beltpack, TIF, program source, CDP-950, etc.). Other useful information might include the device location and usage, as well as any labeling on the intercom cable.
- Write down the name (either 4, 6, or 8-characters) in the AZedit Alpha column of the worksheet. You will enter this name into the intercom system later, using AZedit. Then, whenever you assign the port to an intercom key, the name will appear in the keypanel display for that key.

  NOTE: In earlier versions of AZedit, a port had a single alpha representing both the audio input, and audio output portions of the port. For keypanels, where both the input and output refer to the same device, this made sense, However, in other applications, the input and output paths of the port would often be used for different purposes (eg. IFB program inputs or listen sources on the input side, and an IFB output on the output side).

  In versions 2.06 or higher, it is now possible to give separate alphas to both the input and output portions of a port (by default, the input alpha tracks the output alpha unless you explicitly change the input alpha, so that normally they are the same which would be typical for ports with keypanels attached).
- If the Intercom System is trunked (interconnected) to another intercom system, a second name may be recorded in the "AZedit Alias" column of the worksheet, if desired. This name will also be entered using AZedit. An alias may be useful, for example, to prevent conflicts when the same alpha name is already being used in both intercom systems. When the intercom port is assigned to a keypanel key in the external intercom system, the alias name appears in the display above that key. If you do not enter an alias name, AZedit will automatically use the alpha name as the default.
- Connect devices to the intercom ports as noted in the worksheet. Refer to any installation notes included below for the type of device being connected.
- Run AZedit and enter the AZedit Alpha and Alias names as listed in the worksheet.
- Complete the intercom system configuration.

KP-12 Installation Notes

Use either FRAME connector (but not both) on the back of the keypanel to connect to an intercom port at a Station Breakout Panel.

For more information on Breakout Panels, see the Breakout Panel Resource Guide (p/n *LIT00061-000*)

To connect to an expansion panel, use the cable supplied with the expansion panel. Connect for the EXPANSION connector of the KP-12 to either CONTROL connector on the expansion panel. The remaining CONTROL connector may be used to connect a second expansion panel.

Plug in the AC power cords for the KP-12 and any connected expansion panels, and turn ON the power.

When the KP-12 is connected and turned ON for the first time, the call waiting window will display "SET ADDR". Tap the SELECT control. "ADDR 1" should appear in the call waiting window (logical keypanel address number 1). Turn the SELECT control to display the correct logical keypanel address number, then tap SELECT again. After a few moments the alphanumeric displays should change from asterisks (****) to dashes (----).

When the KP-12's keypanel is initially set, it is automatically saved. Unlike KP-9x series keypanels, no power-off reset is required to change the intercom port number.

Refer to the KP-12 User Manual (p/n *9350-7497-001*) for complete user information.

KP-32 Installation Notes

Use either FRAME connector (but not both) on the back of the keypanel to connect to an intercom port at a Station Breakout Panel.

- To connect an expansion panel, use the cable supplied with the expansion panel. Connect from the EXPANSION connector of the KP-32 to either the CONTROL connector on the expansion panel.
- Plug in the external power supply, provided with the KP-32, into the power connector and then into the AC power cord.

Addressing the KP-32

Each KP-32 keypanel is uniquely identified on the data port by setting the rotary address switch (see KP-32 Addressing on page 15).

Refer to the KP-32 Keypanel User Manual (9350-7656-000) for complete user instructions.

Program Source Notes

External audio program sources can be connected to intercom inputs, but all sources must be DC isolated. The audio output and data pins for the port are not used. Nominal input level is +8 dBu.

NOTE: If program inputs will be assigned using a Program Assign Panel (PAP), they must be connected to specific ports of the intercom system. See “Program Assign Panel (PAP) Installation” on page 21.

TIF Telephone Interface Installation Notes

Rear Panel DIP Switch (S201)

The rear panel DIP Switch contains switches to configure the most often changed options. These include: auto-answer ON/OFF, ring signal ON/OFF, password ON/OFF, intercom port address, and full duplex method.

Password Required

Turning ON the password required option sets the unit so when a call is automatically answered, the user must enter a password via DTMF before the unit will allow communications. The password numeric sequence and length are determined by the settings of S203 internal DIP switch.

Intercom Port Address

Switches 4 to 7 determine the address of the unit. The port address is expressed in binary with switch 4 being the least significant bit (LSB) and switch 7 being the most significant bit (MSB). For more information, see Table 4 on page 14.

Connections

INTERCOM- Use either of the “To Matrix” connectors (but not both) to connect to an intercom port. The intercom port that you connect to will determine the address of the unit. An LED labeled “Data’ is located next to the Matrix connectors and serves as a basic indicator.

TELEPHONE and TELEPHONE LINE- There are two telephone connections provided on the rear of the TIF system. Plug the telephone line into the jack labeled “To Phone Line”. You may also plug a standard telephone into the jack labeled “Loop Thru”.

NOTE: The telephone plugged into the “Loop Thru” jack is disconnected when the TIF seizes the telephone line.

POWER SUPPLY - Insert the round connector from the brick type power supply into the power connector on the rear of the TIF> Turn the locking ring on the connector to secure the connection. Plug the female end of the IEC type power cord into the power supply and then plug the other end into an appropriate power outlet.

For more detailed installation instructions, see the TIF User Manual.

CDP-950 Camera Delegate Panel Installation Notes

CDP-950 General Description

The CDP-950 provides a means of quickly and easily assigning ports to any of 4 party lines. In an ADAM intercom system, up to 8 ports can be controlled from the CDP-950.

CDP-950 Theory of Operation

The CDP-950 connects to the data port for an intercom group by connecting it to the data pins for any port in the group. It can either be connected along with an intercom station, or it can be connected to a port by itself. Once connected, the CDP-950 controls all 9 ports in the group. Or, it can be set to control less than 8 ports, leaving the remaining ports free to be used by other data devices.

For each port, the CDP-950 provides the equivalent of 4 keypanel keys. The keys a rearranged in a column, and are labeled “PL1” through “PL4”. There are 10 columns of keys, labeled “CAM1” through “CAM10”, but columns 9 and 10 are not used in ADAM intercom system.

Once the CDP-950 has been connected and the range of intercom stations that control has been set, the front panel keys may be assigned like any other keypanel keys. Since the CDP-950 is primarily intended for assigning ports to various party lines, the keys are generally assigned to party lines, but they do not have to be. For example, a key could be assigned to talk to a specific person, if desired. Unlike most keypanels, which typically have a separate talk and listen assignments. When a key is activated, the intercom station which is connected to the audio lines for the corresponding port can talk and/or listen to the selected destination.

During normal operation, all 4 keys for a port may be activated simultaneously, if desired. However, during critical communications, it may be desirable to temporarily disable all non-essential communications. The CDP-950 has an “isolate” option which permits this. This option is selectable via an internal DIP switch. When the “isolate” option is activated, the PL4 keys function as “ISO” keys. Pressing a PL4 key will activate its talk/listen assignment, and at the same time, it will disable the PL1 through PL3 keys directly above it. When the ISO key is turned OFF, the previous state of the other three keys will be restored. This ISO feature is selectable using an internal DIP switch in the CDP-950.

The following procedures describe the installation and programming of the CDP-950 for use in an ADAM intercom system:

Installing the CDP-950

1. Before installing the CDP-950, remove the top cover and set the internal DIP Switches:

DIP #1	Normal/ISO Select	
	Closed:	Normal Operation
	Open:	ISO Operation
DIP #2	Baud Rate Select	
	Closed:	9600 baud
	Open:	76,800 baud (Do not use for ADAM)
DIP #3	Not Used (position does not matter)	
DIP #4 - #8	Intercom range select (see Table 4 on page 14 for settings.)	

2. Connect the CDP-950 to the data for any one of the intercom ports that will be controlled. Several possible cable wiring diagrams are shown in Figure 22 on page 54
3. Connect beltpacks, camera intercoms, etc. to the audio input and output pins or each intercom port controlled by the CDP-950.

Programming the CDP-950

Run AZedit and assign the CDP-950 keys just as you would normal keypanel keys. For each intercom port, the PL1 through PL4 keys on the CDP-950 correspond to keys 1 through 4 in the AZedit key assignment table.

NOTE: When a key is activated, both the talk and listen assignment for that key will activate.

TABLE 1. ADAM Master Controller Card (MC-ADAM 9002-7514-100) DIP Switch Settings (S1)[a]

Switch No.	**Description** On=Closed, Off=Open	**Default Setting** On=Closed, Off=Open
1	AZedit baud rate select[b] OFF: 9600 ON: 38.4	ON
2	Key Incoming Message Option[c] OFF: Normal Operation ON: All callers displayed in Incoming Messages window	OFF
3	Keypanel “busy” and “in-use” flash[d] OFF: Enable ON: Disable	OFF
4	Trunk Master baud rate select[e] OFF: 38.4K baud ON: 9600 baud	OFF
5	Clock Monitor[f]	
6	Not Used (set to OFF)	OFF
7	Primary / Secondary ADAM card frame select[g] OFF: Secondary Frame ON: Primary Frame	ON
8	Test ON / OFF OFF: Normal Operation ON: Test Mode	OFF

a. Always set the DIP switches the same on both the main and backup controller cards.

b. The default setting of 9600 baud is compatible with the default setting for the AZedit configuration software. Alternatively, 38.4k baud will provide faster uploads and downloads, but the cable from the ADAM Frame to the PC must be kept to a length less than 10ft (3m), and some older PCs may not operate reliably at this speed.

c. Normally, when a call is received by a keypanel, the keypanel checks for a talk key assigned to the caller. If there is no talk key assigned, the display above that key will flash. If no key is assigned, the caller’s name will appear in the Incoming Messages window. Some intercom systems may have many keypanels that do not have alpha-numeric displays. In this case, it may be preferable to have all callers names appear in the Incoming Messages window.

d. The in-use flash is indicated by a slow and continuous flashing display above a keypanel talk key. It is provided for IFBs, ISOs and trunk lines. It occurs, for example, on all keypanels that have keys assigned to a particular IFB, when that IFB is in-use by any keypanel.The displays will continue to flash until the IFB is no longer in-use. Any user could activate their talk key to talk to the IFB while the display is flashing, but they may interrupt a conversation that is in progress.

   The busy flash is indicated by a display that alternates between the normal key assignment and a double asterisk (**) when the talk key is pressed. A “busy” flash occurs when a keypanel tries to talk to an IFB or trunk line that is currently in-use by another keypanel that has a higher IFB or trunking priority. When a busy flash is indicated, the user cannot talk to the destination assigned to the talk key.

e. 38.4K baud is the normal data rate for communication with a local trunk mast. 9600 baud may be selected when the intercom system is connected to a remote trunk master over some form of long-distance connection (modems, partial T1, etc.). However, expect large response delays when using 9600 baud. If this is not acceptable, other methods of connection using additional equipment may be required.

f. Set to ON only for Altera chip versions 4.1 and higher. Provides enhanced error correction for the bus clock. Leave in OFF position for Altera versions below 4.1.

g. The primary frame is the one which is connected to the system configuration computer, trunk master, UIO-256s, PAPs, etc. When a single ADAM frame is used alone, it must be set as the primary frame. When several ADAM frames are interconnected using bus expanders, one of the frames must be set as the primary frame, and all other frames must be set as secondary frames.

TABLE 2. MCII-e Factory set DIP Switch Settings

DIP Switch 1	Debug Only! Must be in OPEN position.
DIP Switch 2	Sets the baud rate for AZedit serial connection via J1. By default, AZedit is set for COM1 and 38,400 kbps (38.4k). The baud rate set in AZedit must match the baud rate setting of the Master Controllers in ADAM. **Default**: OPEN **OPEN**: 9600 baud **CLOSED**: 38.4k baud
DIP Switch 3, 4, and 5	Reserved, keep in OPEN position.
DIP Switch 6	Debug Only! Must be in OPEN position.
DIP Switch 7	Determines the Master / Slave Frame in a multi-frame system **Default**: CLOSED **OPEN**: Slave Frame **CLOSED**: Master Frame
DIP Switch 8	Debug Only! Must be in OPEN position.

WARNING: DIP Switches 1, 6, and 8 should always be left in the OPEN position. These are reserved for debugging and can have unintended consequences if not left in the OPEN position.

TABLE 3. Relationship between Audio Input/Output Cards, Intercom Ports, and Logical Keypanel Numbers

	Intercom Port Numbers, Grouped by Audio I/O Card Numbers																
Logical Keypanel Number	**AIO 1**	**AIO 2**	**AIO 3**	**AIO 4**	**AIO 5**	**AIO 6**	**AIO 7**	**AIO 8**	**AIO 9**	**AIO 10**	**AIO 11**	**AIO 12**	**AIO 13**	**AIO 14**	**AIO 15**	**AIO 16**	**AIO 17**
1	1	9	17	25	33	41	49	57	65	73	81	89	97	105	113	121	129
2	2	10	18	26	34	42	50	58	66	74	82	90	98	106	114	122	130
3	3	11	19	27	35	43	51	59	67	75	83	91	99	107	115	123	131
4	4	12	20	28	36	44	52	60	68	76	84	92	100	108	116	124	132
5	5	13	21	29	37	45	53	61	69	77	85	93	101	109	117	125	133
6	6	14	22	30	38	46	54	62	70	78	86	94	102	110	118	126	134
7	7	15	23	31	39	47	55	63	71	79	87	95	103	111	119	127	135
8	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136

NOTE: For AIO-16 cards, see the AIO-16 User Manual (p/n 9350-7726-000).

TABLE 4. Address DIP Switch Settings for KP-95, 96, 97, 98 Keypanels and the TIF

Logical Keypanel Number	Address DIP Switch Setting			
	SW4	SW5	SW6	SW7
1	DOWN	UP	UP	UP
2	UP	DOWN	UP	UP
3	DOWN	DOWN	UP	UP
4	UP	UP	DOWN	UP
5	DOWN	UP	DOWN	UP
6	UP	DOWN	DOWN	UP
7	DOWN	DOWN	DOWN	UP
8	UP	UP	UP	DOWN
9	DOWN	UP	UP	DOWN
10	UP	DOWN	UP	DOWN
NOTE: The shaded area is for CS9xxx system address only!				

TABLE 5. CDP-950 Intercom Range Selection

Ports Controlled	DIP Switch Number				
	4	5	6	7	8
1 Only	Open	Closed	Closed	Closed	Closed
1 & 2	Closed	Open	Closed	Closed	Closed
1 & 3	Open	Open	Closed	Closed	Closed
1 & 4	Closed	Closed	Open	Closed	Closed
1 & 5	Open	Closed	Open	Closed	Closed
1 & 6	Closed	Open	Open	Closed	Closed
1 & 7	Open	Open	Open	Closed	Closed
1 & 8	Closed	Closed	Closed	Open	Closed
2 & 8	Closed	Open	Closed	Closed	Open
3 & 8	Open	Open	Closed	Closed	Open
4 & 8	Closed	Closed	Open	Closed	Open
5 & 8	Open	Closed	Open	Closed	Open
6 & 8	Closed	Open	Open	Closed	Open
7 & 8	Open	Open	Open	Closed	Open
8 Only	Closed	Closed	Closed	Open	Open
#1 refers to the lowest numbered port on any given Audio Input/Output Card; #8 refers to the highest					

KP-32 Addressing

A rotary switch is used to indicate the logical port address the keypanel is to use when communicating with the Matrix. The switch is read continuously through polling by the matrix. If the port address is changed, the new address is effective immediately.

NOTE: The address pot, by default is shipped with an invalid address to ensure that there are no conflicts with existing keypanels. It is important to set the address port for the KP-32 keypanel for it to function properly.

The Address switch has a white pointer - pointed at 7. This indicates port 7 or the given AIO card. Determine the proper setting using Table 6.

TABLE 6. Program Assign Panel DIP Switch Settings for Panel Number

ID	SW1	SW2	SW3	SW4
0	Open	Open	Open	Open
1	Close	Open	Open	Open
2	Open	Close	Open	Open
3	Close	Close	Open	Open
4	Open	Open	Close	Open
5	Close	Open	Close	Open
6	Open	Close	Close	Open
7	Close	Close	Close	Open
8	Open	Open	Open	Close
9	Close	Open	Open	Close
10	Open	Close	Open	Close
11	Close	Close	Open	Close
12	Open	Open	Close	Close
13	Close	Open	Close	Close
14	Open	Close	Close	Close
15	Close	Close	Close	Close

TABLE 7. UIO-256 DIP Switch Settings for Input/Output Range

I/O Range	DIP Switch Settings							
	1	2	3	4	5	6	7	8
1-16[a]	Open	Closed	Open	Open	Open	Open	Open	Closed
17-32	Open	Closed	Open	Closed	Open	Open	Open	Closed
33-48	Open	Closed	Open	Open	Closed	Open	Open	Closed
49-64	Open	Closed	Open	Closed	Closed	Open	Open	Closed

a. Default

TABLE 8. UIO-256 Relay Outputs Connector (J5)

Relay Output Numbers[a]	PIN		
	NC Contact	Common	NO Contact
1/17/33/49	38	13	40
2/18/34/50	39	14	15
3/19/35/51	41	16	43
4/20/36/52	42	17	18
5/21/37/53	44	19	46
6/22/38/54	45	20	21
7/23/39/55	47	22	49
8/24/40/56	48	23	24
9/25/41/57	26	1	28
10/26/42/58	27	2	3
11/27/43/59	29	4	31
12/28/44/60	30	5	6
13/29/45/61	32	7	34
14/30/46/62	33	8	9
15/31/47/63	35	10	37
16/32/48/64	36	11	12

a. Dependent on UIO-256 DIP Switch SW1 Settings for Input/Output Range as summarized in Table 7. The relay contacts are rated for 0.5A at 120 VAC; 1A at 24 VDC; 0.3A at 60 VDC

TABLE 9. UIO-256 Opto-Isolated Inputs Connectors (J7)

Relay Output Numbers[a]	PIN Numbers	
	DC Control Input "-"	DC Control Input "+" (50 to 30 VDC)
1/17/33/49	9	34
1/18/34/50	10	35
3/19/35/51	11	36
4/20/36/52	12	37
5/21/37/53	13	38
6/22/38/54	14	39
7/23/39/55	15	40
8/24/40/56	16	41
9/25/41/57	1	26
10/26/42/58	2	27
11/27/43/59	3	28
12/28/44/60	4	29
13/29/45/61	5	30
14/30/46/62	6	31
15/31/47/63	7	32
16/32/48/64	8	33

a. Dependent on UIO-256 DIP Switch SW1 Settings for Input/Output Range as summarized in Table 7.
Inputs will sink 100mA max at a maximum input voltage of +18 VDC
For operation from an external DC voltage source, connect the external control voltage to the "+" pin, and connect the external common to the "-" pin.
The UIO265 also has an internal 18 VDC source, which is available at pins 18 to 22. Ground is available at pins 24 and 25. To use the internal 18 VDC source, ground the "-" pin for the desired control input, then use an external switch to connect from the 18 VDC internal source to the "+" input pin.

TABLE 10. Intercom System Planning Worksheet

Intercom Port No.	ADAM Audio I/O Card No.	Logical Keypanel Number	AZedit Alpha	AZedit Alias	Description (Device Type, Location, User, etc.)
1	1	1			
2	1	2			
3	1	3			
4	1	4			
5	1	5			
6	1	6			
7	1	7			
8	1	8			
9	2	1			
10	2	2			
11	2	3			
12	2	4			
13	2	5			
14	2	6			
15	2	7			
16	2	8			
17	3	1			
18	3	2			
19	3	3			
20	3	4			
21	3	5			
22	3	6			
23	3	7			
24	3	8			
25	4	1			
26	4	2			
27	4	3			
28	4	4			
29	4	5			
30	4	6			
31	4	7			

TABLE 10. Intercom System Planning Worksheet

Intercom Port No.	ADAM Audio I/O Card No.	Logical Keypanel Number	AZedit Alpha	AZedit Alias	Description (Device Type, Location, User, etc.)
32	4	8			
33	5	1			
34	5	2			
35	5	3			
36	5	4			
37	5	5			
38	5	6			
39	5	7			
40	5	8			
41	6	1			
42	6	2			
43	6	3			
44	6	4			
45	6	5			
46	6	6			
47	6	7			
48	6	8			
49	7	1			
50	7	2			
51	7	3			
52	7	4			
53	7	5			
54	7	6			
55	7	7			
56	7	8			
57	8	1			
58	8	2			
59	8	3			
60	8	4			
61	8	5			
62	8	6			
63	8	7			
64	8	8			
65	9	1			
66	9	2			
67	9	3			
68	9	4			
69	9	5			

TABLE 10. Intercom System Planning Worksheet

Intercom Port No.	ADAM Audio I/O Card No.	Logical Keypanel Number	AZedit Alpha	AZedit Alias	Description (Device Type, Location, User, etc.)
70	9	6			
71	9	7			
72	9	8			
73	10	1			
74	10	2			
75	10	3			
76	10	4			
77	10	5			
78	10	6			
79	10	7			
80	10	8			
81	11	1			
82	11	2			
83	11	3			
84	11	4			
85	11	5			
86	11	6			
87	11	7			
88	11	8			
89	12	1			
90	12	2			
91	12	3			
92	12	4			
93	12	5			
94	12	6			
95	12	7			
96	12	8			
97	13	1			
98	13	2			
99	13	3			
100	13	4			
101	13	5			
102	13	6			
103	13	7			
104	13	8			
105	14	1			
106	14	2			
107	14	3			

TABLE 10. Intercom System Planning Worksheet

Intercom Port No.	ADAM Audio I/O Card No.	Logical Keypanel Number	AZedit Alpha	AZedit Alias	Description (Device Type, Location, User, etc.)
108	14	4			
109	14	5			
110	14	6			
111	14	7			
112	14	8			
113	15	1			
114	15	2			
115	15	3			
116	15	4			
117	15	5			
118	15	6			
119	15	7			
120	15	8			
121	16	1			
122	16	2			
123	16	3			
124	16	4			
125	16	5			
126	16	6			
127	16	7			
128	16	8			
129	17	1			
130	17	2			
131	17	3			
132	17	4			
133	17	5			
134	17	6			
135	17	7			
136	17	8			

CHAPTER 3

Device Connections

Connections to the ADAM Frame

An ADAM Intercom System can be setup in a variety of configurations to meet different user requirements. Several common variations are illustrated in the system drawings starting on page 33.

Configuration Computer Connection and Check

Use an RS-232 serial cable to connect from J1 of the XCP-ADAM-MC Breakout Panel to COM1 or COM2 of the configuration PC. For cable wiring details, refer to "ADAM-807 ADAM Intercom System AZedit to PC RS-232-C Cable" on page 51.

Insert the AZedit software CD into the computer. Follow the instructions to load AZedit onto the PC. Note, the computer should have at least 2 MB of extended memory (4 MB preferably).

If the link between the computer and intercom system is functioning properly, the current intercom system configuration should upload (even if nothing has yet been programmed). ONLINE mode should appear at the lower right of the computer screen. If not, check the cable wiring and the connection between the computer and the intercom system.

NOTE: By default, the AZedit configuration program uses COM1 and 38400 baud for communication between the computer and intercom system. COM2 and/or 9600 baud, USB, Network connections are selectable as options in AZedit (Options>Communications). When operating at 38.4k baud, DIP switch number 1 must be set to the ON position on both the main and backup master controller cards in the ADAM frame, see "ADAM Master Controller Card (MC-ADAM 9002-7514-100) DIP Switch Settings (S1)" on page 12 or "MCII-e Factory set DIP Switch Settings" on page 13, depending on the type of Master Controller you are using.

Program Assign Panel (PAP) Installation

General

Up to 15 PAPs can be connected to the intercom system. Each PAP has DIP switches to assign it as panel number 1 through 15, and to select either a low or high IFB range. As supplied, PAPs expect all program sources to be connected to sequential intercom ports of the intercom system starting with port #1. The options and default setting for the PAP series are summarized in the following table:

TABLE 11. PAP Addresses

Model	Default Ports for Program Input	Panel No. (Default = 1)	IFB Range	
			Low (Default)	High
PAP-940	1-24	1-4	1-40	41-80
PAP-950-50	1-50	1-4	1-50	51-100
PAP-951	1-8	1-4	1-12	13-24
PAP-952	1-16	1-4	1-24	25-48

The intercom port addresses for program input, as well as the low and high ranges for IFB output, are stored in EPROM memory in the PAP. In some cases, it may be desirable to control program sources and IFB ranges other than those allowed by the defaults. In such cases, new custom EPROMs can be programmed as needed. Contact your intercom system dealer for further information.

Connecting a Single PAP

Connect a single PAP to J3 of the Master Controller Breakout Panel as shown in ADAM-101 through ADAM-108 interconnect diagrams on starting on page 35. Use and RS-485 data cable wired as shown in the ADAM-809 installation drawing on page 53. Connect power to the AC mains connector.

Connecting Additional PAPs

Connect any additional PAPs by wiring them in parallel with the first PAP.

Change the panel number DIP switches in all but one of the PAPs. To do this, remove the covers from the PAP and locate the 8-position DIP switch block on the PMC-15 circuit board. By default, all PAPs are supplied with DIP switches #1 and #2 set for panel number 1. Reset the switches as shown in Table 6 on page 15, so that each PAP has a unique panel number.

By default, all PAP systems are supplied with the lower of two ranges of IFBs selected. For example, a PAP-952 is set by default to work with IFB numbers 1 to 24. If a second PAP-952 is connected, it can be reset to work with IFB numbers 25 to 48, if desired.

NOTE: DIP switches 4-8 in PAP systems are not used and their position does not matter.

Programming IFB Defaults to Initialize PAPs

Before a PAP can reassign program inputs, a default configuration for each IFB must first be setup using AZedit. See “Creating an IFB”.

Note, it is not necessary to have any program sources or output stations connected to setup the IFBs.

Checking PAP Operation

Status of a PAP can be checked by selecting PAP from the Status menu in AZedit.

Alternatively, it is possible to check PAP operation using the XPT (Crosspoint Table) in AZedit. When you select “Force and Inhibit” from the System menu in AZedit, a port pick list appears. Select one of the IFB output ports. A “Connecting Ports” table for that port appears. As program sources are reassigned on the PAP front panel, the changes can be viewed in the table by pressing the ENTER key. As each new program source is connected, a check mark appears next to that port in the table.

PAP-32 Program Assign Panel

The PAP-32 connects to J3 on the ADAM system, port 902 on an ADAM CS system. The baud rate, as will all UIO-256, PAP, and LCP-102 devices is fixed at 76.8k baud.

A cable must be made to connect the PAP-32 to the system. See the following figures for the proper cabling diagram.

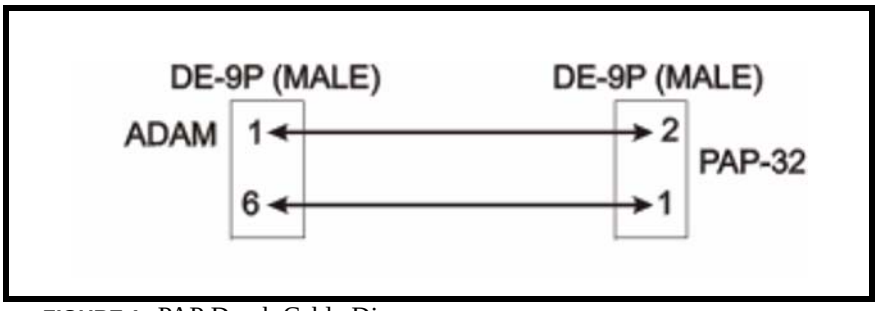


FIGURE 1. PAP D-sub Cable Diagram

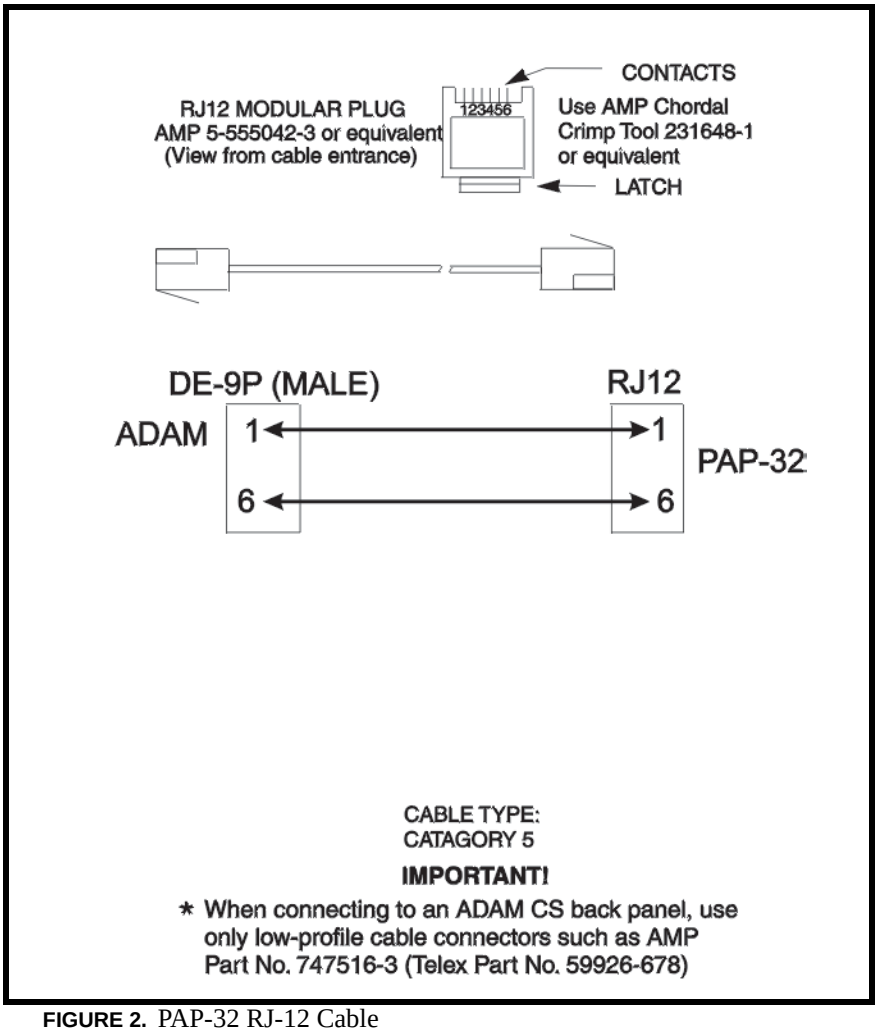


FIGURE 2. PAP-32 RJ-12 Cable

Viewing the Program Source for an IFB

Press an IFB destination key which has an IFB assignment (i.e., is not blank/). The IFB key's lower LED will be turned on solid red.

If the specified IFB has a program source, the lower LED for the key which has that program source assigned will turn on solid red for as long as the IFB key is held on. If the program source for that IFB does not appear on any of the source keys, the source will be displayed in the scroll window, and the scroll window's lower LED will turn on solid red.

If the specified IFB key is press and does not have a program source, no indication is shown on the source keys.

If an IFB destination key is pressed and the key does not have a program source, no indication is shown on the source keys.

If an IFB destination key is pressed and the key does not have an assignment, the key press is ignored.

If an IFB key is pressed and it does not have an output bus defined (in AZedit), the LED turns on solid green to indicate the program input for that IFB cannot be changed.

Viewing What IFBs a Program Source Feeds

Press a program source key. The lower LED for that key will be turned on solid red. Any IFB keys which have that program source assigned will turn on solid red, for as long as the source key is held on.

The program source may also feed other IFBs which are not assigned on the PAP-32. No indication is provided for those IFBs.

Assigning Source and IFB Keys

NOTE: When a key is programmed by entering a programming sequence or by copying the scroll key to it, its LED turns on green to indicate the key is being programmed. The key must be released and pressed again in order to see information about its assignment (e.g., for an IFB key, to see what program input is feeding it).

Direct Assignment

To directly assign a source key, enter "1" ('NUM'), followed by the IFB number (1-3 digits), followed by "PGM", and tap a source key. The key will be assigned to that port. A port number of 0 is used to clear any existing assignments.

To directly assign an IFB key, enter "0:, "2" ("Function-IFB"), followed by the IFB number (1-3 digits) followed by "PGM", and tap a destination key. The key will be assigned to that IFB. An IFB number of 0 is used to clear any existing assignments.

Scrolling

Press either the "Source" key on the keypad (to scroll through available program sources) or the "Dest" key (to scroll through IFBs). The first item of the requested list is shown in the scroll window. The scroll keys can be used to step through the list. Normally, scrolling is one item at a time. Press "5" ("Prefix") enters prefix scroll mode, in which groups of alphas with the same 2-character prefix are skipped. Pressing CLR or PGM cancels prefix scroll mode and reverts to normal scroll mode.

When the requested assignment is displayed, press 7 (copy), and then tap the key to which the assignment is to be copied. Alternatively, for program sources only, the key can be used while it is in the scroll window, without copying. The scroll key can be cleared, if desired, by pressing up briefly.

When scrolling through program sources, the only ports which are displayed are those for which the "LCP-102 scroll enable" box is checked in AZedit. By default, the first 200 ports are LCP-102 scroll enabled. However, if a port has been assigned to a key, the assignment remains even if the port is subsequently scroll restricted.

UIO-256 Input/Output Frame

Connecting a single UIO-256 Frame

1. Connect a single UIO-256 to J3 of the Master Controller Breakout Panel, as shown in ADAM-101 through ADAM-108 interconnect diagrams starting on page X. Use a RS-485 data cable wired as shown in the ADAM -809 installation drawing on page 53. If a PAP is also being used, it may be wired to the same connector. Alternatively, use a punch block or other connector system.
2. Set the SW-1 DIP switch on the back of the UIO-256 to select a range 1-16, as shown in Table 7 on page 15.
   The SW-2 DIP switches are not used, and their positions do not matter.
3. Connect relay outputs to external devices using the relay outputs connector, J5.
   The J5 connector pinout is shown in Table 8 on page 16.
4. Connect the input devices using the opto-isolator connector, J7.
   The connector pinout is shown in Table 9 on page 16.

Connecting Additional UIO-256 Frames

1. Up to 15 additional UIO-256 frames may be connected in a parallel bus configuration using the 15-pin ribbon cables provided.
2. Connect the J3 output of the ADAM MC to the UIO-256 via J2 on the UIO-256.
3. Connect J2 output of the first UIO-256 to the J2 input of the second UIO-256.
4. Connect the J2 output of the second UIO-256 to the J2 input of the third.
   Repeat as necessary
5. Set the SW1 DIP switches on each UIO-256 to select a unique panel number as summarized in Table 7 on page 15.
6. Connect to the opto-isolator outputs and relay inputs as for the first UIO-256.

Programming the UIO-256

Each opto-isolator input is assignable in the GPI Assignments table of AZedit. The GPI Assignment table allows you to simulate a key on a keypanel at a particular intercom port, regardless of whether or not there is an actual keypanel connected to that port.

If an input has been assigned to a key, it is then necessary to define a device to be activated by that key. This is accomplished in the keypanel edit screen for the port to which the digital input was assigned.

The UIO-256 relay outputs are programmed using the GPI Output Edit screen in AZedit.

Connecting to the SSA-324

General Description

The SSA-324 is a System-to-System Adapter (or interface). It interconnects the voice signals between different types of intercom systems. In addition, it can optionally interconnect intercom systems. Also, it can optionally interconnect “Calls” or tally signals between systems. Each SSA-324 includes two, 2-wire to 4-wire converters. The 4-wire interface can deliver and accept high-level signals such as those from the McCurdy intercom system. An SSA-324 carries two voice channels when used as dual 2-wire to 4-wire interfaces, and one voice channel when functioning as a 2-wire to 2-wire interface.

Installation

Mechanical Installation

The SSA-324 can be installed in 3 ways:

- a single unit mounted in half rack space using an optional Model MCP2 Kit for rack mounting a single unit.
- two SSA-324 power supplies mounted side-by-side using the optional MCP1 Kit for rack mounting two units side-by-side.
- free standing using the optional MCP8 Kit for adding side channels for non-rack mounting portable use.

Electrical Installation

The connection for t6he headset used to setup the interface is on the front panel, all other connections are on the rear panel.

On the rear panel, on System A the 2-wire connection is at J101, while on System B it is a J102. These are XLR-3-31 (female) type connectors. System A and B 4-wire connections are both at TB1 and J103. J103 also contains connections to the options card, when installed. Low voltage alternating current power is applied to J104 (16 volts, AC).

	RTS Unbalanced	Audiocom Balanced[a]	Clear-Com Unbalanced[b]
CH1	2	2, 3	3
CH2	3	-	-
Com	1	1	1

a. S101 (System A) and/or S102 (System B) set to IN position for balance operation.

b. If option board installed and Clear-Com call light operation is required, move jumper W103 (System A) an/or jumper W203 (System B) on motherboard to 2, 3 position. Jumper J103-7, 20 for System A, and/or J103-12/25 for System B.

TB1 Four Wire Connections

	System A TB1-	System B TB1-
Audio In Hi	1	5
Audio In Lo	2	6
Audio Out Hi	3	8
Audio Out Lo	4	8

J104 Power Input

Earth	1
16VAC	2
16VAC	3
No Conn.	4

J103 I/O

1	Earth
2	4-wire Audio In Hi, System A
15	4-wire Audio In Lo, System A
3	4-wire Audio Out Hi, System A
16	4-wire Audio Out Lo, System A
4	4-wire Audio In Hi, System B
17	4-wire Audio In Lo, System B
5	4-wire Audio Out Hi, System B
18	4-wire Audio Out Lo, System B
6	Call Send GND (A)
19	Call Send Hi (A)
7	DC Call Sig En GND (A)
20	DC Call En Hi (A)
8	Relay Contact NO (A)
9	Relay Contact COM (A)
21	Relay Contact NC (A)
22	Relay Contact NO (B)
23	Relay Contact COM (B)
10	Relay Contact NC (B)
11	Call Send GND (B)
24	Call Send Hi (B)
12	DC Call Sig En GND (B)
25	DC Call Sig En Hi (B)

Front Panel Dyn. Mic Headset Connector

1	Mic Lo
2	Mic Hi
3	Headphone Com
4	Headphone Hi

Motherboard Test Signal Jumper

Place jumper on W2 for tone test signal, W3 for voice test signal. Test signal used with headset and front panel nulling adjustments to null return 2-wire signal.

Operation

Controls and Connections

Front Panel Switches

1. Channel Select switch, CH1 out / CH2 in, Sys A.
2. Press momentary switch for nulling System A, 2-wire
3. Channel Select switch, CH1 out / CH2 in, System B
4. Press momentary switch for nulling System B, 2-wire

Connectors

5. XLR-4-31 Female 4-pin headset connector (DYN MIC HEADSET)

Controls

6. Monitor headphone level (VOLUME)

Indicator

7. Indicator (Power) green LED

Controls

8. LEVEL TO RTS, System A
9. LEVEL FROM RTS, System A
10. DUCK Level, System A

11. Inductive (LOW) null, System A
12. Resistive (MEDium) null, System A
13. Capacitive (HIgh) null, System A

14. LEVEL TO RTS, System A
15. LEVEL FROM RTS, System A
16. DUCK Level, System A

17. Inductive (LOW) null, System A
18. Resistive (MEDium) null, System A
19. Capacitive (HIgh) null, System A

Rear Panel

Switches

Unbalance (Out) Balance (In) / Select Two-wire, System A
Unbalance (Out) Balance (In) / Select Two-wire, System B

Operation Nulling

Preset Controls as follows:

To/From RTS	Set to Midway
Duck Level	Set to CW
Low	Set to Midway
Med	Set to Midway
Hi	Set to CW
Volume	10 o'clock

Press Test Switch

1. If test signal tone, adjust Med for null, then Hi, then Low. If test signal voice, say "ahhhhh" into microphone, adjust Med for null, then Hi, then Low.
2. Release Test Switch

Level Setting

1. Have Talkers 1 and 2 on 4-wire system, Talkers 3 and 4 on 2-wire system. Adjust To / From RTS Controls so that all Talkers can hear each other at about the same level regardless of which system they are on.

Duck Setting

1. Adjust Duck Level only if full duplex operation is not possible because of feedback. Adjust Duck Level carefully from CW towards CWW. Only a very small amount of ducking should be used.

Connecting to an SSA-424

General Description

The SSA-424 Dual Digital Hybrid interfaces two, 2-wire intercom lines to two, 4-wire intercom lines. Unlike earlier analog hybrids, the SSA-424 features advanced digital signal processing to achieve automatic nulling of the 4-wire lines. Plus, each hybrid features convenient peak-reading level meters to quickly match the levels between the lines that are being interfaced. The result is an easy and accurate setup. With the SSA-424, all need for test tones, nulling adjustments, and ducking adjustments have been eliminated.

4-Wire Audio Connections for ADAM, ADAM CS or Zeus

1. Use standard 9-pin or RJ-12 keypanel cables.
2. Connect from one port of your intercom system to J2A or J3A (System A connection) on the back of the SSA-424.
3. Connect from another port to J2B or J3B (System B connection).
4. on the SSA-424 front panel, set the 4W LEVEL REF SEL switches to the +8dB position.

Audio Connections for Other 4-Wire Communications Systems

1. Construct 9-pin or RJ-11 cables to connect from your 4-wire system to the SSA-424. To to the System A hybrid, use either J2A or J3A; for the System B hybrid, use either J2B or J3B.

Pin Connections are as follows:

9-pin Connection

Connector Type (on SSA-424 end of cable): 9-pin male D-sub

Pin 1	No Connection
Pin 2	No Connection
Pin 3	No Connection
Pin 4	Balanced Audio + output (to 4-wire system)
Pin 5	Balanced Audio - output (to 4-wire system)
Pin 6	No Connection
Pin 7	Balanced Audio - input (from 4-wire system)
Pin 8	Balanced Audio + input (from 4-wire system)
Pin 9	No Connection

RJ-12 Connection

Connector Type (on SSA-424 end of cable)): RJ-12 plug

Pin1	No Connection
Pin 2	Balanced Audio + input (to 4-wire system)
Pin 3	Balanced Audio + output (to 4-wire system)
Pin 4	Balanced Audio - output (to 4-wire system)
Pin 5	Balanced Audio + output (to 4-wire system)
Pin 6	No Connection

2. On the SSA-424 front panel, set the 4W LEVEL REF SEL switches to the position which most closely matches the audio input and output levels of your 4-wire system. If you don’t know the levels, select +4 dB. for the time being.

4-Wire Call Signal Connections

NOTE: These connections will require the call signal option. Part Number 9002705500.

Call Signal Connections for ADAM, ADAM CS, and Zeus

You can use the General Purpose Interface (GPI) connector to interface the call signals. The pin-out of the connector is the same for all of these intercom systems.

ADAM GPI Connector:	XCP-ADAM-MC, J11
ADAM CS GPI Connector:	J903
Zeus GPI Connector	J27

If you intercom system is equipped with a UIO-256 Universal Input / Output Frame, you can also use that for connections.

As an alternative to using the GPI, you can use external components to send and receive call signals.

Call Signal Connections for Other 4-Wire Communications Systems

4-wire Call Send and Call Enable/Inhibit

The SSA-424 accepts a switch-contact input from the 4-wire system and then generates a call signal output to the 2-wire system. The SSA-424 also accepts an option switch contact input to enable or inhibit call signalling between the 4-wire and 2-wire systems.

4-Wire Call Receive

The SSA-424 receives call signals from the 2-wire system, then converts this to relay contact closure for use as a 4-wire call receive indication. The SSA-424 also provides +5 VDC which can be connected to the relay contacts to generate a DC output signal instead of a contact closure.

The SSA-424 power indicator flashes whenever a call signal is received from either 2-wire line. This can be used as an incoming call indication for the 4-wire system, if desired, and the level display should provide an indication of which line is calling.

CHAPTER 4

Drawings

FIGURE 3. ADAM-101 ADAM Intercom System XCP-40-RJ11 Interconnect Diagram

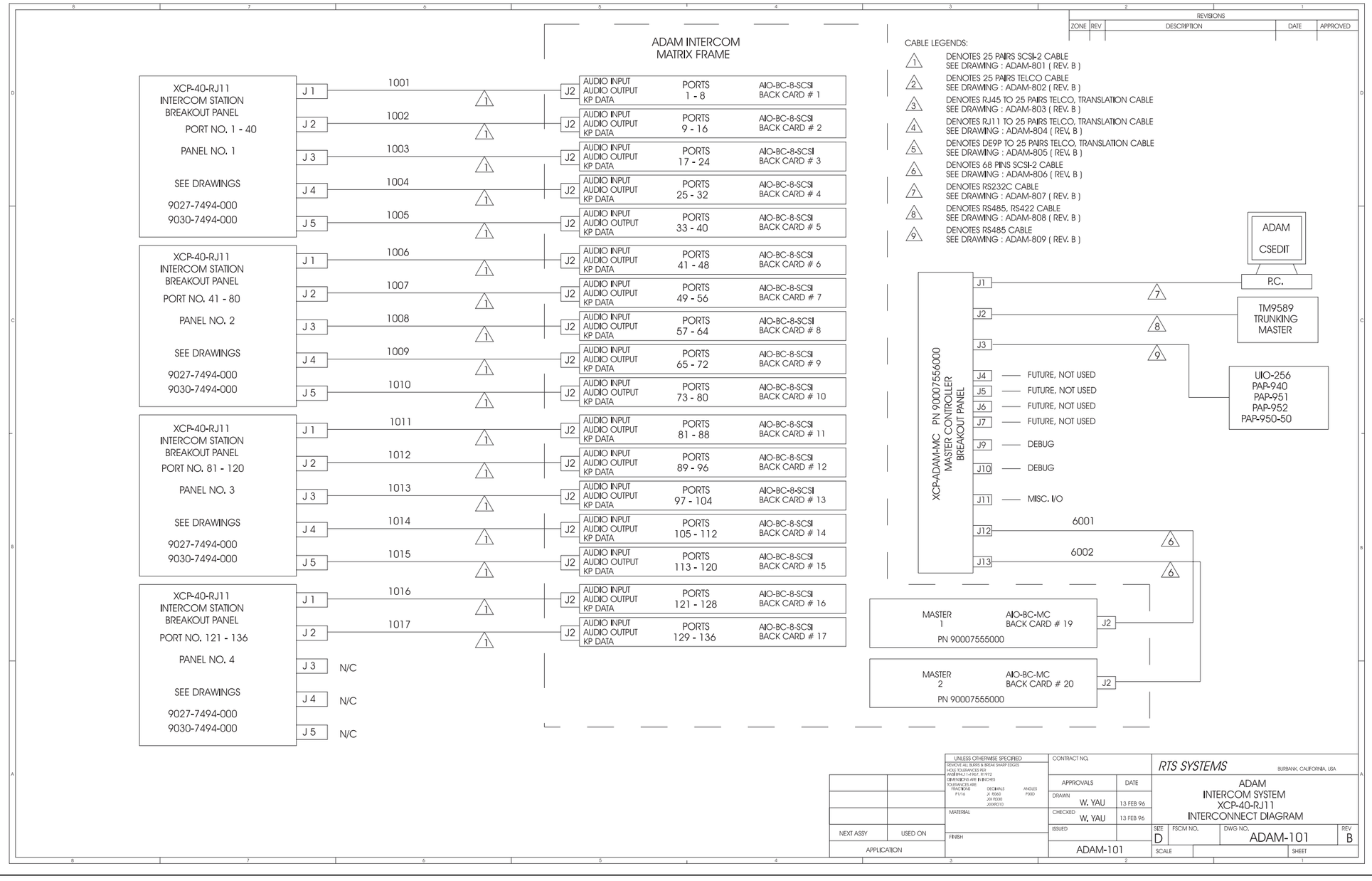


FIGURE 4. ADAM-102 ADAM Intercom System XCP-40-DB9 Interconnect Diagram

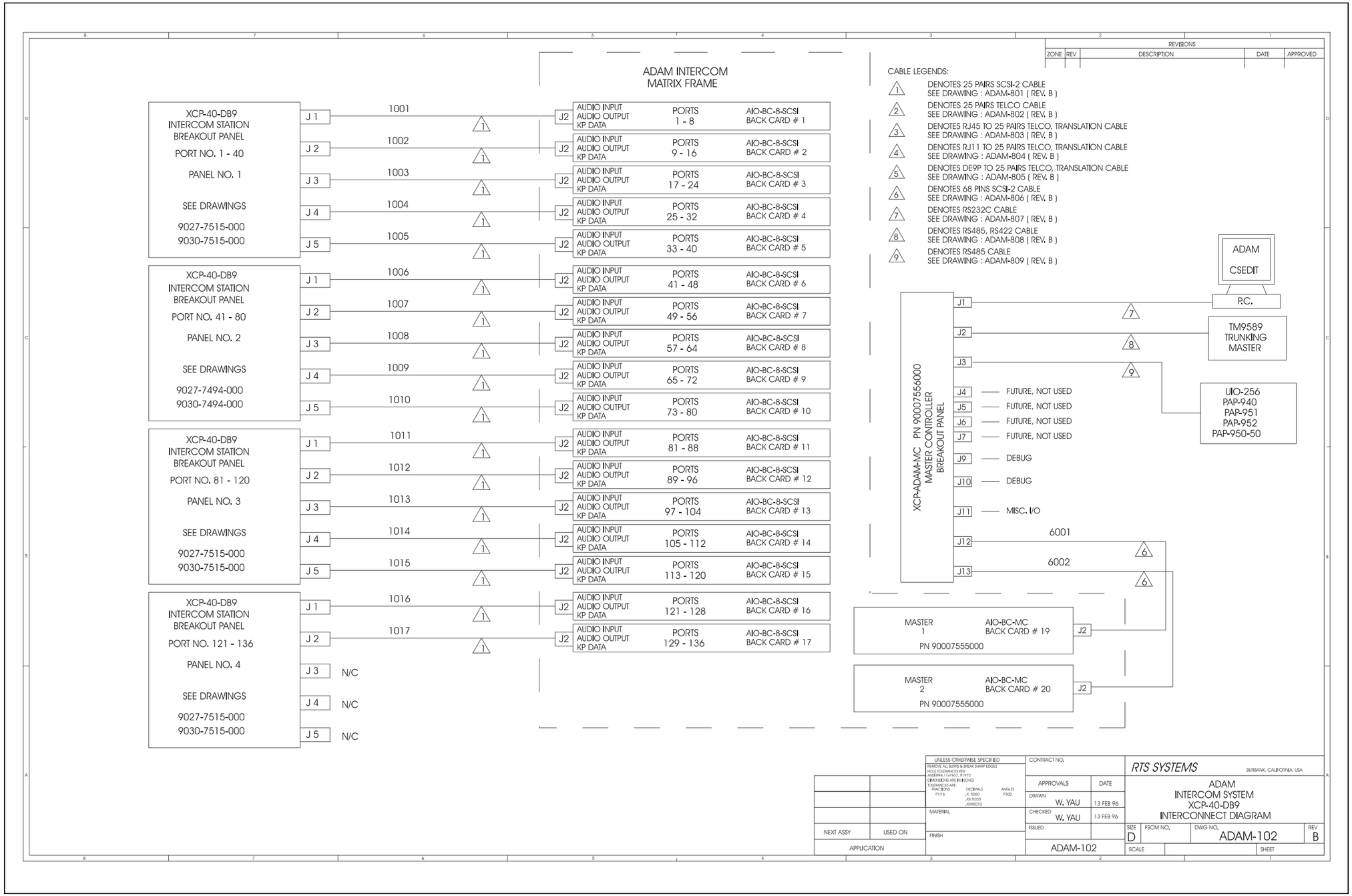


FIGURE 5. ADAM-103 ADAM Intercom System XCP-955 / Jack fields / SCSI Interconnect Diagram

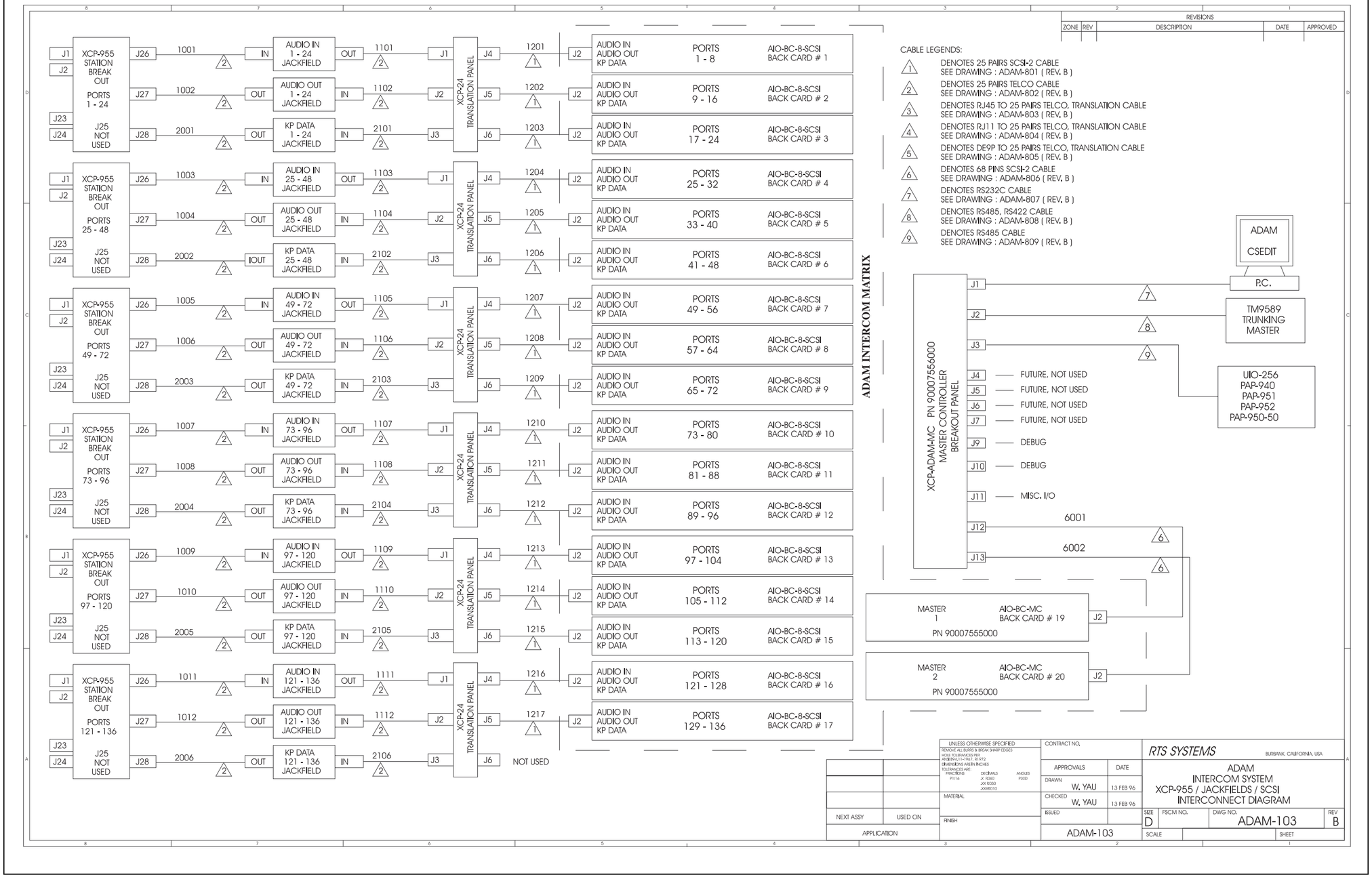

XCP-955 STATION BREAK OUT PORTS 1 - 24
J25 NOT USED
AUDIO IN 1 - 24 JACKFIELD
AUDIO OUT 1 - 24 JACKFIELD
KP DATA 1 - 24 JACKFIELD
XCP-24 TRANSLATION PANEL
AUDIO IN AUDIO OUT KP DATA
PORTS 1 - 8
AIO-BC-8-SCSI BACK CARD # 1
PORTS 9 - 16
AIO-BC-8-SCSI BACK CARD # 2
PORTS 17 - 24
AIO-BC-8-SCSI BACK CARD # 3
XCP-955 STATION BREAK OUT PORTS 25 - 48
AUDIO IN 25 - 48 JACKFIELD
AUDIO OUT 25 - 48 JACKFIELD
KP DATA 25 - 48 JACKFIELD
PORTS 25 - 32
AIO-BC-8-SCSI BACK CARD # 4
PORTS 33 - 40
AIO-BC-8-SCSI BACK CARD # 5
PORTS 41 - 48
AIO-BC-8-SCSI BACK CARD # 6
XCP-955 STATION BREAK OUT PORTS 49 - 72
AUDIO IN 49 - 72 JACKFIELD
AUDIO OUT 49 - 72 JACKFIELD
KP DATA 49 - 72 JACKFIELD
PORTS 49 - 56
AIO-BC-8-SCSI BACK CARD # 7
PORTS 57 - 64
AIO-BC-8-SCSI BACK CARD # 8
PORTS 65 - 72
AIO-BC-8-SCSI BACK CARD # 9
XCP-955 STATION BREAK OUT PORTS 73 - 96
AUDIO IN 73 - 96 JACKFIELD
AUDIO OUT 73 - 96 JACKFIELD
KP DATA 73 - 96 JACKFIELD
PORTS 73 - 80
AIO-BC-8-SCSI BACK CARD # 10
PORTS 81 - 88
AIO-BC-8-SCSI BACK CARD # 11
PORTS 89 - 96
AIO-BC-8-SCSI BACK CARD # 12
XCP-955 STATION BREAK OUT PORTS 97 - 120
AUDIO IN 97 - 120 JACKFIELD
AUDIO OUT 97 - 120 JACKFIELD
KP DATA 97 - 120 JACKFIELD
PORTS 97 - 104
AIO-BC-8-SCSI BACK CARD # 13
PORTS 105 - 112
AIO-BC-8-SCSI BACK CARD # 14
PORTS 113 - 120
AIO-BC-8-SCSI BACK CARD # 15
XCP-955 STATION BREAK OUT PORTS 121 - 136
AUDIO IN 121 - 136 JACKFIELD
AUDIO OUT 121 - 136 JACKFIELD
KP DATA 121 - 136 JACKFIELD
PORTS 121 - 128
AIO-BC-8-SCSI BACK CARD # 16
PORTS 129 - 136
AIO-BC-8-SCSI BACK CARD # 17
NOT USED
ADAM INTERCOM MATRIX
REVISIONS
ZONE REV DESCRIPTION DATE APPROVED
CABLE LEGENDS:
1 DENOTES 25 PAIRS SCSI-2 CABLE SEE DRAWING : ADAM-801 (REV. B)
2 DENOTES 25 PAIRS TELCO CABLE SEE DRAWING : ADAM-802 (REV. B)
3 DENOTES RJ45 TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-803 (REV. B)
4 DENOTES RJ11 TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-804 (REV. B)
5 DENOTES DE9P TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-805 (REV. B)
6 DENOTES 68 PINS SCSI-2 CABLE SEE DRAWING : ADAM-806 (REV. B)
7 DENOTES RS232C CABLE SEE DRAWING : ADAM-807 (REV. B)
8 DENOTES RS485, RS422 CABLE SEE DRAWING : ADAM-808 (REV. B)
9 DENOTES RS485 CABLE SEE DRAWING : ADAM-809 (REV. B)
ADAM
CSEDIT
P.C.
TM9589 TRUNKING MASTER
UIO-256 PAP-940 PAP-951 PAP-952 PAP-950-50
XCP-ADAM-MC PN 90007556000 MASTER CONTROLLER BREAKOUT PANEL
FUTURE, NOT USED
DEBUG
MISC. I/O
6001
6002
MASTER 1 AIO-BC-MC BACK CARD # 19 PN 90007555000
MASTER 2 AIO-BC-MC BACK CARD # 20 PN 90007555000
UNLESS OTHERWISE SPECIFIED
CONTRACT NO.
RTS SYSTEMS BURBANK, CALIFORNIA, USA
APPROVALS DATE
DRAWN W. YAU 13 FEB 96
CHECKED W. YAU 13 FEB 96
ISSUED
ADAM INTERCOM SYSTEM
XCP-955 / JACKFIELDS / SCSI INTERCONNECT DIAGRAM
MATERIAL
FINISH
NEXT ASSY USED ON
APPLICATION
ADAM-103
SIZE D FSCM NO. DWG NO. ADAM-103 REV B
SCALE SHEET

FIGURE 6. ADAM-104 ADAM Intercom System XCP-955 / Jack fields / RJ Interconnect Diagram

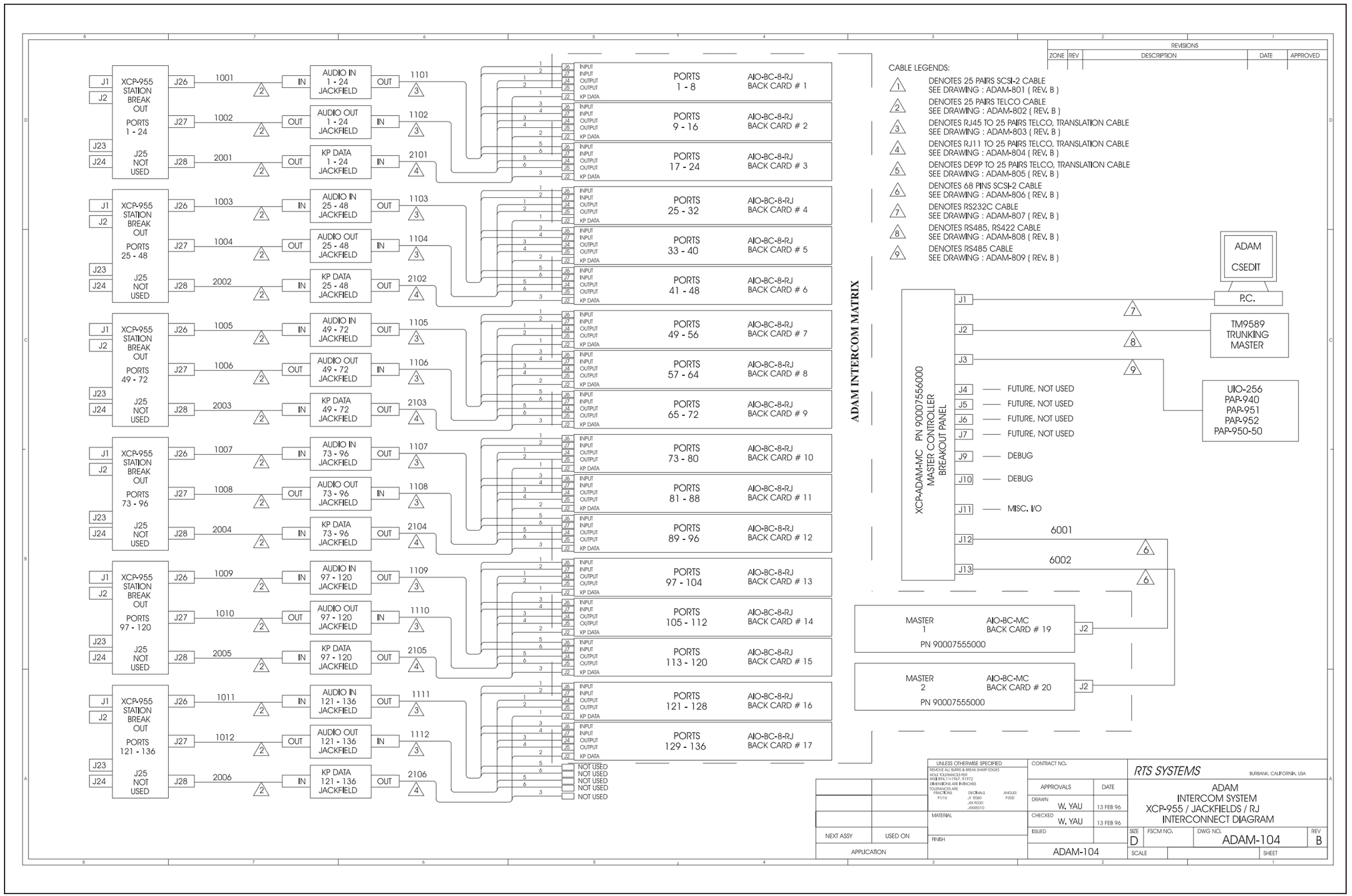

XCP-955 STATION BREAK OUT PORTS 1 - 24
XCP-955 STATION BREAK OUT PORTS 25 - 48
XCP-955 STATION BREAK OUT PORTS 49 - 72
XCP-955 STATION BREAK OUT PORTS 73 - 96
XCP-955 STATION BREAK OUT PORTS 97 - 120
XCP-955 STATION BREAK OUT PORTS 121 - 136
J25 NOT USED
AUDIO IN 1 - 24 JACKFIELD
AUDIO OUT 1 - 24 JACKFIELD
KP DATA 1 - 24 JACKFIELD
AUDIO IN 25 - 48 JACKFIELD
AUDIO OUT 25 - 48 JACKFIELD
KP DATA 25 - 48 JACKFIELD
AUDIO IN 49 - 72 JACKFIELD
AUDIO OUT 49 - 72 JACKFIELD
KP DATA 49 - 72 JACKFIELD
AUDIO IN 73 - 96 JACKFIELD
AUDIO OUT 73 - 96 JACKFIELD
KP DATA 73 - 96 JACKFIELD
AUDIO IN 97 - 120 JACKFIELD
AUDIO OUT 97 - 120 JACKFIELD
KP DATA 97 - 120 JACKFIELD
AUDIO IN 121 - 136 JACKFIELD
AUDIO OUT 121 - 136 JACKFIELD
KP DATA 121 - 136 JACKFIELD
1001 1002 2001 1003 1004 2002 1005 1006 2003 1007 1008 2004 1009 1010 2005 1011 1012 2006
1101 1102 2101 1103 1104 2102 1105 1106 2103 1107 1108 2104 1109 1110 2105 1111 1112 2106
PORTS 1 - 8 AIO-BC-8-RJ BACK CARD # 1
PORTS 9 - 16 AIO-BC-8-RJ BACK CARD # 2
PORTS 17 - 24 AIO-BC-8-RJ BACK CARD # 3
PORTS 25 - 32 AIO-BC-8-RJ BACK CARD # 4
PORTS 33 - 40 AIO-BC-8-RJ BACK CARD # 5
PORTS 41 - 48 AIO-BC-8-RJ BACK CARD # 6
PORTS 49 - 56 AIO-BC-8-RJ BACK CARD # 7
PORTS 57 - 64 AIO-BC-8-RJ BACK CARD # 8
PORTS 65 - 72 AIO-BC-8-RJ BACK CARD # 9
PORTS 73 - 80 AIO-BC-8-RJ BACK CARD # 10
PORTS 81 - 88 AIO-BC-8-RJ BACK CARD # 11
PORTS 89 - 96 AIO-BC-8-RJ BACK CARD # 12
PORTS 97 - 104 AIO-BC-8-RJ BACK CARD # 13
PORTS 105 - 112 AIO-BC-8-RJ BACK CARD # 14
PORTS 113 - 120 AIO-BC-8-RJ BACK CARD # 15
PORTS 121 - 128 AIO-BC-8-RJ BACK CARD # 16
PORTS 129 - 136 AIO-BC-8-RJ BACK CARD # 17
NOT USED
ADAM INTERCOM MATRIX
REVISIONS
ZONE REV DESCRIPTION DATE APPROVED
CABLE LEGENDS:
1 DENOTES 25 PAIRS SCSI-2 CABLE SEE DRAWING : ADAM-801 (REV. B)
2 DENOTES 25 PAIRS TELCO CABLE SEE DRAWING : ADAM-802 (REV. B)
3 DENOTES RJ45 TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-803 (REV. B)
4 DENOTES RJ11 TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-804 (REV. B)
5 DENOTES DE9P TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-805 (REV. B)
6 DENOTES 68 PINS SCSI-2 CABLE SEE DRAWING : ADAM-806 (REV. B)
7 DENOTES RS232C CABLE SEE DRAWING : ADAM-807 (REV. B)
8 DENOTES RS485, RS422 CABLE SEE DRAWING : ADAM-808 (REV. B)
9 DENOTES RS485 CABLE SEE DRAWING : ADAM-809 (REV. B)
ADAM CSEDIT P.C.
TM9589 TRUNKING MASTER
UIO-256 PAP-940 PAP-951 PAP-952 PAP-950-50
XCP-ADAM-MC PN 90007556000 MASTER CONTROLLER BREAKOUT PANEL
J1 J2 J3 J4 J5 J6 J7 J9 J10 J11 J12 J13
FUTURE, NOT USED
DEBUG
MISC. I/O
6001
6002
MASTER 1 PN 90007555000 AIO-BC-MC BACK CARD # 19
MASTER 2 PN 90007555000 AIO-BC-MC BACK CARD # 20
UNLESS OTHERWISE SPECIFIED
REMOVE ALL BURRS & BREAK SHARP EDGES
HOLE TOLERANCES PER ANSI B94.11-1982, R1972
DIMENSIONS ARE IN INCHES
TOLERANCES ARE: FRACTIONS ±1/16 DECIMALS .X ±.060 .XX ±.030 .XXX ±.010 ANGLES ±30'
MATERIAL
FINISH
NEXT ASSY USED ON
APPLICATION
CONTRACT NO.
APPROVALS DATE
DRAWN W. YAU 13 FEB 96
CHECKED W. YAU 13 FEB 96
ISSUED
ADAM-104
RTS SYSTEMS BURBANK, CALIFORNIA, USA
ADAM
INTERCOM SYSTEM
XCP-955 / JACKFIELDS / RJ
INTERCONNECT DIAGRAM
SIZE D FSCM NO. DWG NO. ADAM-104 REV B
SCALE SHEET

FIGURE 7. ADAM-105 ADAM Intercom System XCP-955 / Jack fields / SCSI Interconnect Diagram

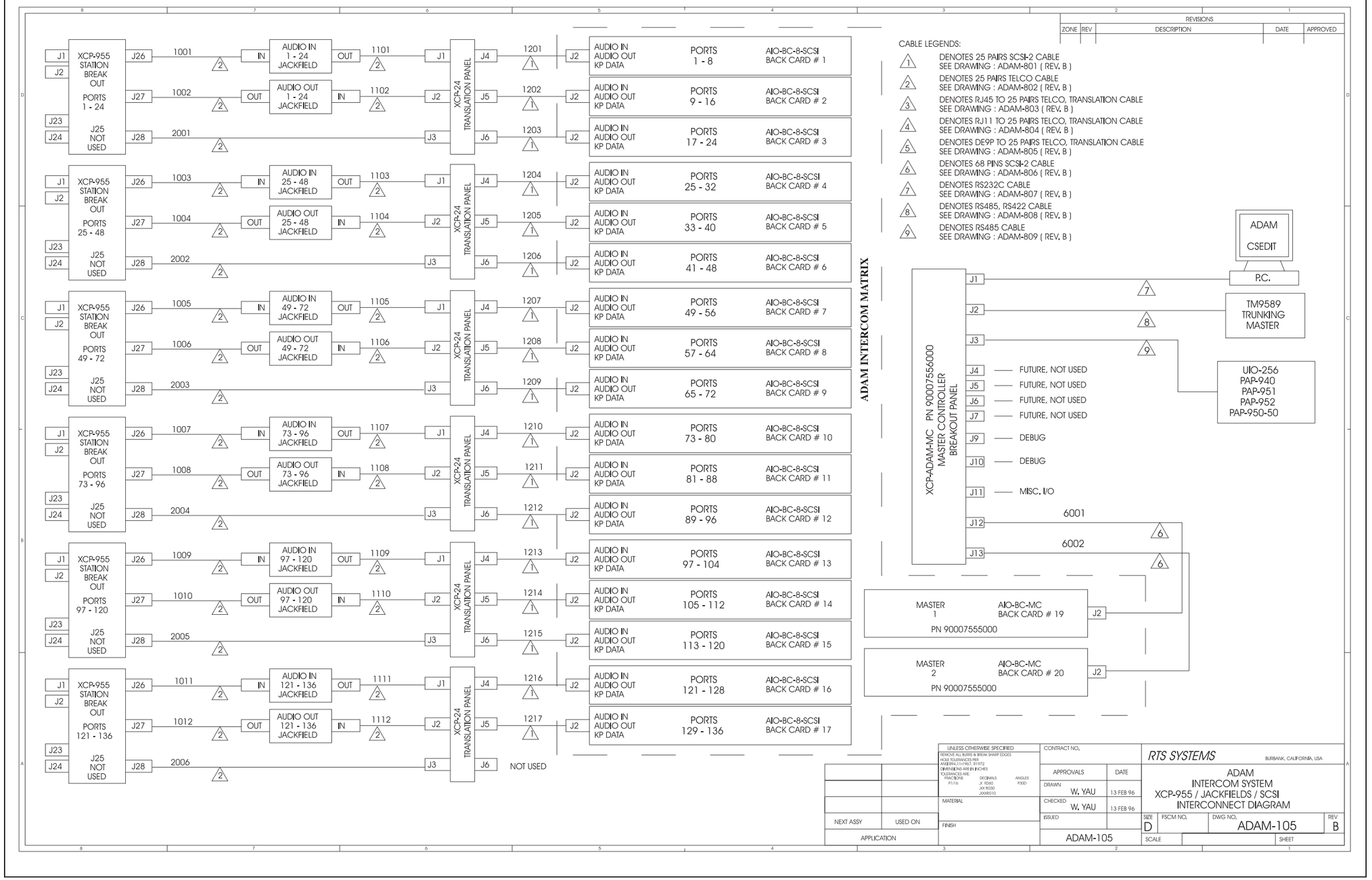

XCP-955 STATION BREAK OUT PORTS 1 - 24 J25 NOT USED
XCP-955 STATION BREAK OUT PORTS 25 - 48 J25 NOT USED
XCP-955 STATION BREAK OUT PORTS 49 - 72 J25 NOT USED
XCP-955 STATION BREAK OUT PORTS 73 - 96 J25 NOT USED
XCP-955 STATION BREAK OUT PORTS 97 - 120 J25 NOT USED
XCP-955 STATION BREAK OUT PORTS 121 - 136 J25 NOT USED
AUDIO IN 1 - 24 JACKFIELD
AUDIO OUT 1 - 24 JACKFIELD
AUDIO IN 25 - 48 JACKFIELD
AUDIO OUT 25 - 48 JACKFIELD
AUDIO IN 49 - 72 JACKFIELD
AUDIO OUT 49 - 72 JACKFIELD
AUDIO IN 73 - 96 JACKFIELD
AUDIO OUT 73 - 96 JACKFIELD
AUDIO IN 97 - 120 JACKFIELD
AUDIO OUT 97 - 120 JACKFIELD
AUDIO IN 121 - 136 JACKFIELD
AUDIO OUT 121 - 136 JACKFIELD
XCP-24 TRANSLATION PANEL
AUDIO IN AUDIO OUT KP DATA
PORTS 1 - 8
AIO-BC-8-SCSI BACK CARD # 1
PORTS 9 - 16
AIO-BC-8-SCSI BACK CARD # 2
PORTS 17 - 24
AIO-BC-8-SCSI BACK CARD # 3
PORTS 25 - 32
AIO-BC-8-SCSI BACK CARD # 4
PORTS 33 - 40
AIO-BC-8-SCSI BACK CARD # 5
PORTS 41 - 48
AIO-BC-8-SCSI BACK CARD # 6
PORTS 49 - 56
AIO-BC-8-SCSI BACK CARD # 7
PORTS 57 - 64
AIO-BC-8-SCSI BACK CARD # 8
PORTS 65 - 72
AIO-BC-8-SCSI BACK CARD # 9
PORTS 73 - 80
AIO-BC-8-SCSI BACK CARD # 10
PORTS 81 - 88
AIO-BC-8-SCSI BACK CARD # 11
PORTS 89 - 96
AIO-BC-8-SCSI BACK CARD # 12
PORTS 97 - 104
AIO-BC-8-SCSI BACK CARD # 13
PORTS 105 - 112
AIO-BC-8-SCSI BACK CARD # 14
PORTS 113 - 120
AIO-BC-8-SCSI BACK CARD # 15
PORTS 121 - 128
AIO-BC-8-SCSI BACK CARD # 16
PORTS 129 - 136
AIO-BC-8-SCSI BACK CARD # 17
NOT USED
ADAM INTERCOM MATRIX
REVISIONS
ZONE REV DESCRIPTION DATE APPROVED
CABLE LEGENDS:
1 DENOTES 25 PAIRS SCSI-2 CABLE SEE DRAWING : ADAM-801 (REV. B)
2 DENOTES 25 PAIRS TELCO CABLE SEE DRAWING : ADAM-802 (REV. B)
3 DENOTES RJ45 TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-803 (REV. B)
4 DENOTES RJ11 TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-804 (REV. B)
5 DENOTES DE9P TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-805 (REV. B)
6 DENOTES 68 PINS SCSI-2 CABLE SEE DRAWING : ADAM-806 (REV. B)
7 DENOTES RS232C CABLE SEE DRAWING : ADAM-807 (REV. B)
8 DENOTES RS485, RS422 CABLE SEE DRAWING : ADAM-808 (REV. B)
9 DENOTES RS485 CABLE SEE DRAWING : ADAM-809 (REV. B)
ADAM
CSEDIT
P.C.
TM9589 TRUNKING MASTER
UIO-256 PAP-940 PAP-951 PAP-952 PAP-950-50
XCP-ADAM-MC PN 90007556000 MASTER CONTROLLER BREAKOUT PANEL
FUTURE, NOT USED
FUTURE, NOT USED
FUTURE, NOT USED
DEBUG
DEBUG
MISC. I/O
6001
6002
MASTER 1 AIO-BC-MC BACK CARD # 19 PN 90007555000
MASTER 2 AIO-BC-MC BACK CARD # 20 PN 90007555000
UNLESS OTHERWISE SPECIFIED
REMOVE ALL BURRS & BREAK SHARP EDGES
NEXT ASSY
USED ON
APPLICATION
CONTRACT NO.
APPROVALS
DATE
DRAWN W. YAU 13 FEB 96
CHECKED W. YAU 13 FEB 96
ISSUED
ADAM-105
RTS SYSTEMS
BURBANK, CALIFORNIA, USA
ADAM
INTERCOM SYSTEM
XCP-955 / JACKFIELDS / SCSI
INTERCONNECT DIAGRAM
SIZE D
FSCM NO.
DWG NO. ADAM-105
REV B
SCALE
SHEET

FIGURE 8. ADAM-106 ADAM Intercom System XCP-955 / Jack fields / RJ Interconnect Diagram

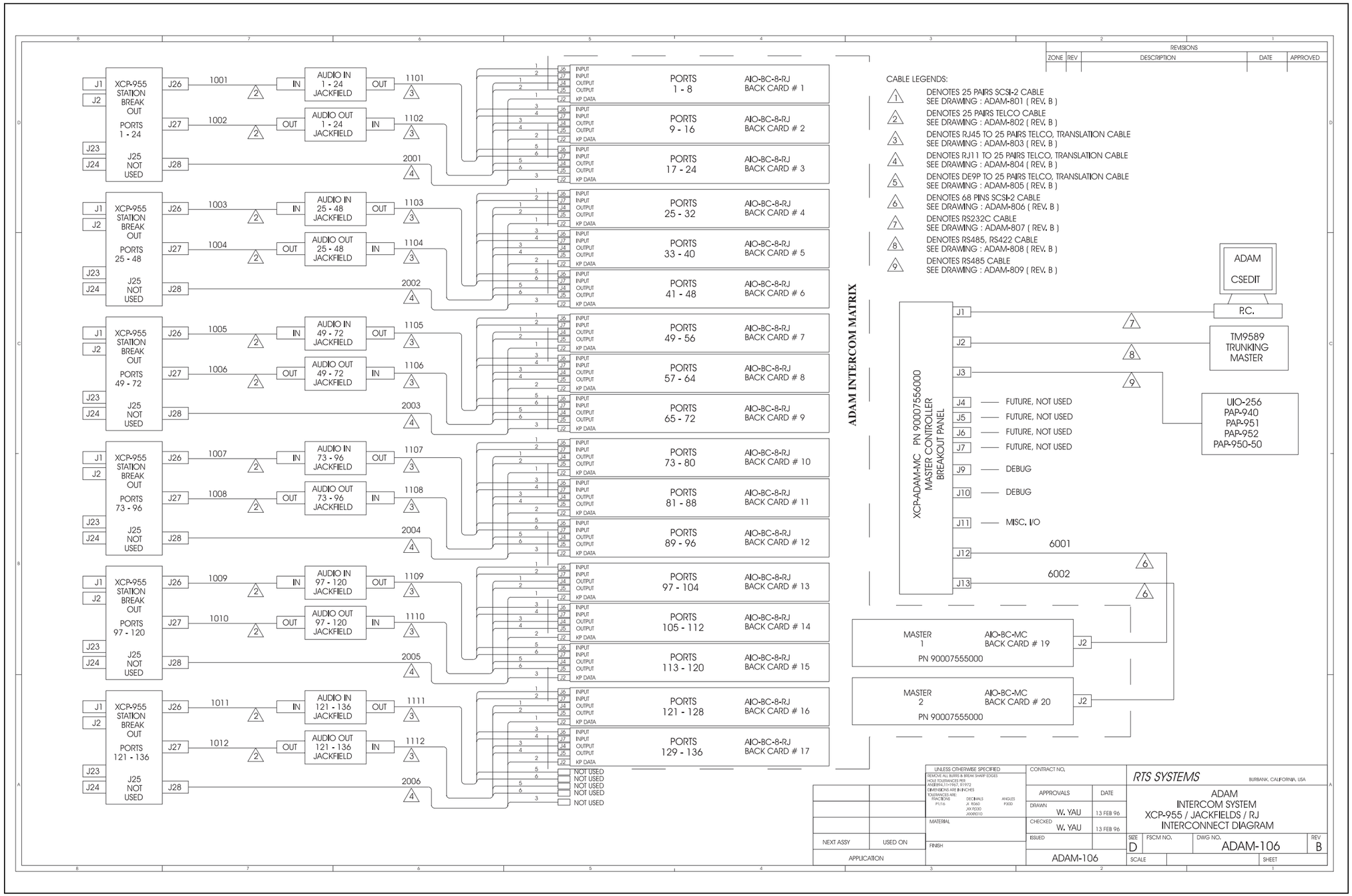

XCP-955 STATION BREAK OUT PORTS 1 - 24
XCP-955 STATION BREAK OUT PORTS 25 - 48
XCP-955 STATION BREAK OUT PORTS 49 - 72
XCP-955 STATION BREAK OUT PORTS 73 - 96
XCP-955 STATION BREAK OUT PORTS 97 - 120
XCP-955 STATION BREAK OUT PORTS 121 - 136
J25 NOT USED
AUDIO IN 1 - 24 JACKFIELD
AUDIO OUT 1 - 24 JACKFIELD
AUDIO IN 25 - 48 JACKFIELD
AUDIO OUT 25 - 48 JACKFIELD
AUDIO IN 49 - 72 JACKFIELD
AUDIO OUT 49 - 72 JACKFIELD
AUDIO IN 73 - 96 JACKFIELD
AUDIO OUT 73 - 96 JACKFIELD
AUDIO IN 97 - 120 JACKFIELD
AUDIO OUT 97 - 120 JACKFIELD
AUDIO IN 121 - 136 JACKFIELD
AUDIO OUT 121 - 136 JACKFIELD
PORTS 1 - 8
PORTS 9 - 16
PORTS 17 - 24
PORTS 25 - 32
PORTS 33 - 40
PORTS 41 - 48
PORTS 49 - 56
PORTS 57 - 64
PORTS 65 - 72
PORTS 73 - 80
PORTS 81 - 88
PORTS 89 - 96
PORTS 97 - 104
PORTS 105 - 112
PORTS 113 - 120
PORTS 121 - 128
PORTS 129 - 136
AIO-BC-8-RJ BACK CARD # 1
AIO-BC-8-RJ BACK CARD # 2
AIO-BC-8-RJ BACK CARD # 3
AIO-BC-8-RJ BACK CARD # 4
AIO-BC-8-RJ BACK CARD # 5
AIO-BC-8-RJ BACK CARD # 6
AIO-BC-8-RJ BACK CARD # 7
AIO-BC-8-RJ BACK CARD # 8
AIO-BC-8-RJ BACK CARD # 9
AIO-BC-8-RJ BACK CARD # 10
AIO-BC-8-RJ BACK CARD # 11
AIO-BC-8-RJ BACK CARD # 12
AIO-BC-8-RJ BACK CARD # 13
AIO-BC-8-RJ BACK CARD # 14
AIO-BC-8-RJ BACK CARD # 15
AIO-BC-8-RJ BACK CARD # 16
AIO-BC-8-RJ BACK CARD # 17
INPUT
OUTPUT
KP DATA
NOT USED
ADAM INTERCOM MATRIX
REVISIONS
ZONE REV DESCRIPTION DATE APPROVED
CABLE LEGENDS:
1 DENOTES 25 PAIRS SCSI-2 CABLE SEE DRAWING : ADAM-801 (REV. B)
2 DENOTES 25 PAIRS TELCO CABLE SEE DRAWING : ADAM-802 (REV. B)
3 DENOTES RJ45 TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-803 (REV. B)
4 DENOTES RJ11 TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-804 (REV. B)
5 DENOTES DE9P TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-805 (REV. B)
6 DENOTES 68 PINS SCSI-2 CABLE SEE DRAWING : ADAM-806 (REV. B)
7 DENOTES RS232C CABLE SEE DRAWING : ADAM-807 (REV. B)
8 DENOTES RS485, RS422 CABLE SEE DRAWING : ADAM-808 (REV. B)
9 DENOTES RS485 CABLE SEE DRAWING : ADAM-809 (REV. B)
ADAM
CSEDIT
P.C.
TM9589 TRUNKING MASTER
UIO-256
PAP-940
PAP-951
PAP-952
PAP-950-50
XCP-ADAM-MC PN 90007556000 MASTER CONTROLLER BREAKOUT PANEL
FUTURE, NOT USED
DEBUG
MISC. I/O
6001
6002
MASTER 1 AIO-BC-MC BACK CARD # 19 PN 90007555000
MASTER 2 AIO-BC-MC BACK CARD # 20 PN 90007555000
UNLESS OTHERWISE SPECIFIED
REMOVE ALL BURRS & BREAK SHARP EDGES
HOLE TOLERANCES PER ANSI B94.11-1967, R1972
DIMENSIONS ARE IN INCHES
TOLERANCES ARE: FRACTIONS ±1/16 DECIMALS .X ±0.060 .XX ±0.030 .XXXR010 ANGLES ±2DD
MATERIAL
FINISH
NEXT ASSY
USED ON
APPLICATION
CONTRACT NO.
APPROVALS DATE
DRAWN W. YAU 13 FEB 96
CHECKED W. YAU 13 FEB 96
ISSUED
ADAM-106
RTS SYSTEMS BURBANK, CALIFORNIA, USA
ADAM
INTERCOM SYSTEM
XCP-955 / JACKFIELDS / RJ
INTERCONNECT DIAGRAM
SIZE D FSCM NO. DWG NO. ADAM-106 REV B
SCALE SHEET

FIGURE 9. ADAM-107 ADAM Intercom System XCP-954-48 / Jack fields / SCSI Interconnect Diagram

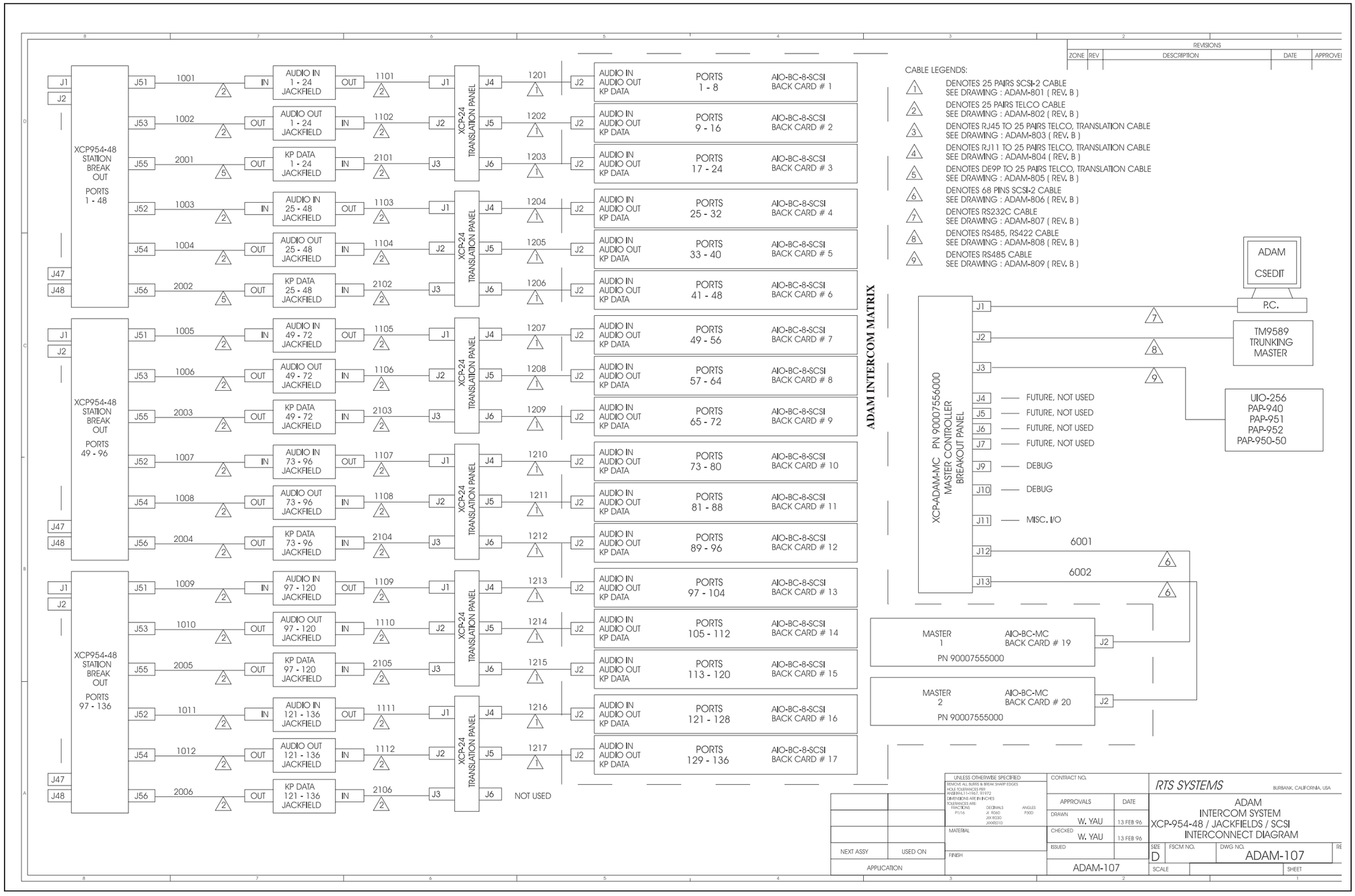

XCP954-48 STATION BREAK OUT PORTS 1 - 48
XCP954-48 STATION BREAK OUT PORTS 49 - 96
XCP954-48 STATION BREAK OUT PORTS 97 - 136
AUDIO IN 1 - 24 JACKFIELD
AUDIO OUT 1 - 24 JACKFIELD
KP DATA 1 - 24 JACKFIELD
AUDIO IN 25 - 48 JACKFIELD
AUDIO OUT 25 - 48 JACKFIELD
KP DATA 25 - 48 JACKFIELD
AUDIO IN 49 - 72 JACKFIELD
AUDIO OUT 49 - 72 JACKFIELD
KP DATA 49 - 72 JACKFIELD
AUDIO IN 73 - 96 JACKFIELD
AUDIO OUT 73 - 96 JACKFIELD
KP DATA 73 - 96 JACKFIELD
AUDIO IN 97 - 120 JACKFIELD
AUDIO OUT 97 - 120 JACKFIELD
KP DATA 97 - 120 JACKFIELD
AUDIO IN 121 - 136 JACKFIELD
AUDIO OUT 121 - 136 JACKFIELD
KP DATA 121 - 136 JACKFIELD
XCP-24 TRANSLATION PANEL
AUDIO IN AUDIO OUT KP DATA
PORTS 1 - 8
PORTS 9 - 16
PORTS 17 - 24
PORTS 25 - 32
PORTS 33 - 40
PORTS 41 - 48
PORTS 49 - 56
PORTS 57 - 64
PORTS 65 - 72
PORTS 73 - 80
PORTS 81 - 88
PORTS 89 - 96
PORTS 97 - 104
PORTS 105 - 112
PORTS 113 - 120
PORTS 121 - 128
PORTS 129 - 136
AIO-BC-8-SCSI BACK CARD # 1
AIO-BC-8-SCSI BACK CARD # 2
AIO-BC-8-SCSI BACK CARD # 3
AIO-BC-8-SCSI BACK CARD # 4
AIO-BC-8-SCSI BACK CARD # 5
AIO-BC-8-SCSI BACK CARD # 6
AIO-BC-8-SCSI BACK CARD # 7
AIO-BC-8-SCSI BACK CARD # 8
AIO-BC-8-SCSI BACK CARD # 9
AIO-BC-8-SCSI BACK CARD # 10
AIO-BC-8-SCSI BACK CARD # 11
AIO-BC-8-SCSI BACK CARD # 12
AIO-BC-8-SCSI BACK CARD # 13
AIO-BC-8-SCSI BACK CARD # 14
AIO-BC-8-SCSI BACK CARD # 15
AIO-BC-8-SCSI BACK CARD # 16
AIO-BC-8-SCSI BACK CARD # 17
NOT USED
ADAM INTERCOM MATRIX
REVISIONS
ZONE REV DESCRIPTION DATE APPROVED
CABLE LEGENDS:
1 DENOTES 25 PAIRS SCSI-2 CABLE SEE DRAWING : ADAM-801 (REV. B)
2 DENOTES 25 PAIRS TELCO CABLE SEE DRAWING : ADAM-802 (REV. B)
3 DENOTES RJ45 TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-803 (REV. B)
4 DENOTES RJ11 TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-804 (REV. B)
5 DENOTES DE9P TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-805 (REV. B)
6 DENOTES 68 PINS SCSI-2 CABLE SEE DRAWING : ADAM-806 (REV. B)
7 DENOTES RS232C CABLE SEE DRAWING : ADAM-807 (REV. B)
8 DENOTES RS485, RS422 CABLE SEE DRAWING : ADAM-808 (REV. B)
9 DENOTES RS485 CABLE SEE DRAWING : ADAM-809 (REV. B)
ADAM
CSEDIT
P.C.
TM9589 TRUNKING MASTER
UIO-256
PAP-940
PAP-951
PAP-952
PAP-950-50
XCP-ADAM-MC PN 90007556000 MASTER CONTROLLER BREAKOUT PANEL
FUTURE, NOT USED
DEBUG
MISC. I/O
6001
6002
MASTER 1 AIO-BC-MC BACK CARD # 19 PN 90007555000
MASTER 2 AIO-BC-MC BACK CARD # 20 PN 90007555000
UNLESS OTHERWISE SPECIFIED
CONTRACT NO.
RTS SYSTEMS BURBANK, CALIFORNIA, USA
APPROVALS DATE
DRAWN W. YAU 13 FEB 96
CHECKED W. YAU 13 FEB 96
ISSUED
ADAM INTERCOM SYSTEM
XCP-954-48 / JACKFIELDS / SCSI INTERCONNECT DIAGRAM
SIZE D FSCM NO. DWG NO. ADAM-107
SCALE SHEET
MATERIAL
FINISH
NEXT ASSY USED ON
APPLICATION
ADAM-107

FIGURE 10. ADAM-108 ADAM Intercom System XCP-954-48 / Jack fields / RJ Interconnect Diagram

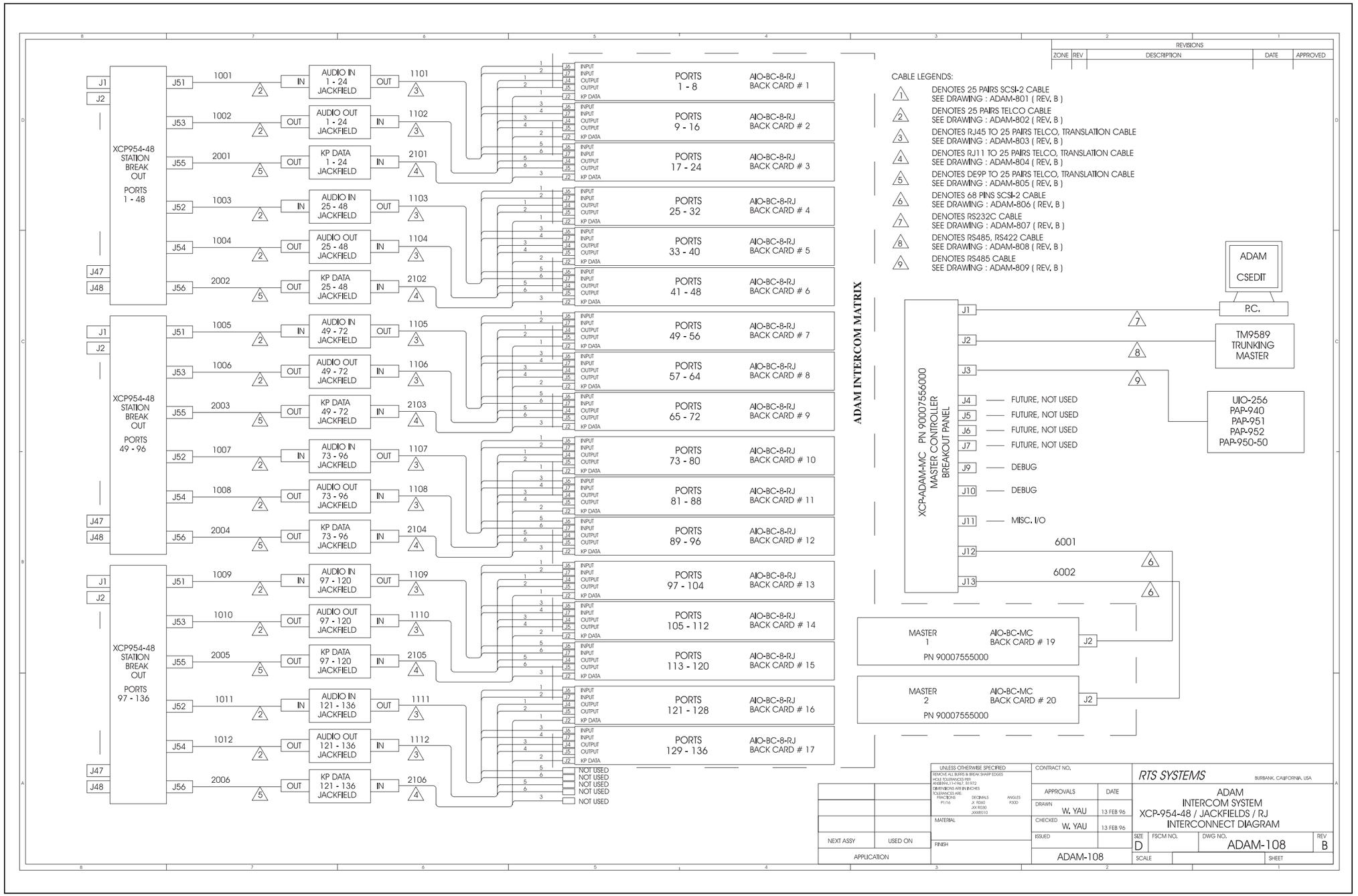

REVISIONS
ZONE REV DESCRIPTION DATE APPROVED
CABLE LEGENDS:
1 DENOTES 25 PAIRS SCSI-2 CABLE SEE DRAWING : ADAM-801 (REV. B)
2 DENOTES 25 PAIRS TELCO CABLE SEE DRAWING : ADAM-802 (REV. B)
3 DENOTES RJ45 TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-803 (REV. B)
4 DENOTES RJ11 TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-804 (REV. B)
5 DENOTES DE9P TO 25 PAIRS TELCO, TRANSLATION CABLE SEE DRAWING : ADAM-805 (REV. B)
6 DENOTES 68 PINS SCSI-2 CABLE SEE DRAWING : ADAM-806 (REV. B)
7 DENOTES RS232C CABLE SEE DRAWING : ADAM-807 (REV. B)
8 DENOTES RS485, RS422 CABLE SEE DRAWING : ADAM-808 (REV. B)
9 DENOTES RS485 CABLE SEE DRAWING : ADAM-809 (REV. B)
XCP954-48 STATION BREAK OUT PORTS 1 - 48
XCP954-48 STATION BREAK OUT PORTS 49 - 96
XCP954-48 STATION BREAK OUT PORTS 97 - 136
J1 J2 J47 J48 J51 J52 J53 J54 J55 J56
1001 1002 1003 1004 2001 2002
AUDIO IN 1 - 24 JACKFIELD
AUDIO OUT 1 - 24 JACKFIELD
AUDIO IN 25 - 48 JACKFIELD
AUDIO OUT 25 - 48 JACKFIELD
KP DATA 1 - 24 JACKFIELD
KP DATA 25 - 48 JACKFIELD
1101 1102 1103 1104 2101 2102
1005 1006 1007 1008 2003 2004
AUDIO IN 49 - 72 JACKFIELD
AUDIO OUT 49 - 72 JACKFIELD
AUDIO IN 73 - 96 JACKFIELD
AUDIO OUT 73 - 96 JACKFIELD
KP DATA 49 - 72 JACKFIELD
KP DATA 73 - 96 JACKFIELD
1105 1106 1107 1108 2103 2104
1009 1010 1011 1012 2005 2006
AUDIO IN 97 - 120 JACKFIELD
AUDIO OUT 97 - 120 JACKFIELD
AUDIO IN 121 - 136 JACKFIELD
AUDIO OUT 121 - 136 JACKFIELD
KP DATA 97 - 120 JACKFIELD
KP DATA 121 - 136 JACKFIELD
1109 1110 1111 1112 2105 2106
J35 INPUT J37 INPUT J4 OUTPUT J5 OUTPUT J2 KP DATA
PORTS 1 - 8 AIO-BC-8-RJ BACK CARD # 1
PORTS 9 - 16 AIO-BC-8-RJ BACK CARD # 2
PORTS 17 - 24 AIO-BC-8-RJ BACK CARD # 3
PORTS 25 - 32 AIO-BC-8-RJ BACK CARD # 4
PORTS 33 - 40 AIO-BC-8-RJ BACK CARD # 5
PORTS 41 - 48 AIO-BC-8-RJ BACK CARD # 6
PORTS 49 - 56 AIO-BC-8-RJ BACK CARD # 7
PORTS 57 - 64 AIO-BC-8-RJ BACK CARD # 8
PORTS 65 - 72 AIO-BC-8-RJ BACK CARD # 9
PORTS 73 - 80 AIO-BC-8-RJ BACK CARD # 10
PORTS 81 - 88 AIO-BC-8-RJ BACK CARD # 11
PORTS 89 - 96 AIO-BC-8-RJ BACK CARD # 12
PORTS 97 - 104 AIO-BC-8-RJ BACK CARD # 13
PORTS 105 - 112 AIO-BC-8-RJ BACK CARD # 14
PORTS 113 - 120 AIO-BC-8-RJ BACK CARD # 15
PORTS 121 - 128 AIO-BC-8-RJ BACK CARD # 16
PORTS 129 - 136 AIO-BC-8-RJ BACK CARD # 17
NOT USED
ADAM INTERCOM MATRIX
XCP-ADAM-MC PN 90007556000 MASTER CONTROLLER BREAKOUT PANEL
J1 J2 J3 J4 J5 J6 J7 J9 J10 J11 J12 J13
ADAM CSEDIT
P.C.
TM9589 TRUNKING MASTER
UIO-256 PAP-940 PAP-951 PAP-952 PAP-950-50
FUTURE, NOT USED
FUTURE, NOT USED
FUTURE, NOT USED
FUTURE, NOT USED
DEBUG
DEBUG
MISC. I/O
6001
6002
MASTER 1 AIO-BC-MC BACK CARD # 19 J2 PN 90007555000
MASTER 2 AIO-BC-MC BACK CARD # 20 J2 PN 90007555000
UNLESS OTHERWISE SPECIFIED
REMOVE ALL BURRS & BREAK SHARP EDGES
HOLE TOLERANCES PER ANSI B94.11-M97, 81.972
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS ±1/16 DECIMALS .X ±0.060 .XX ±0.030 .XXX ±0.010 ANGLES ±30D
MATERIAL
FINISH
NEXT ASSY USED ON
APPLICATION
CONTRACT NO.
APPROVALS DATE
DRAWN W. YAU 13 FEB 96
CHECKED W. YAU 13 FEB 96
ISSUED
ADAM-108
RTS SYSTEMS BURBANK, CALIFORNIA, USA
ADAM
INTERCOM SYSTEM
XCP-954-48 / JACKFIELDS / RJ
INTERCONNECT DIAGRAM
SIZE D FSCM NO. DWG NO. ADAM-108 REV B
SCALE SHEET

FIGURE 11. ADAM-301 ADAM Intercom System Matrix Frame Layout - AIO-8

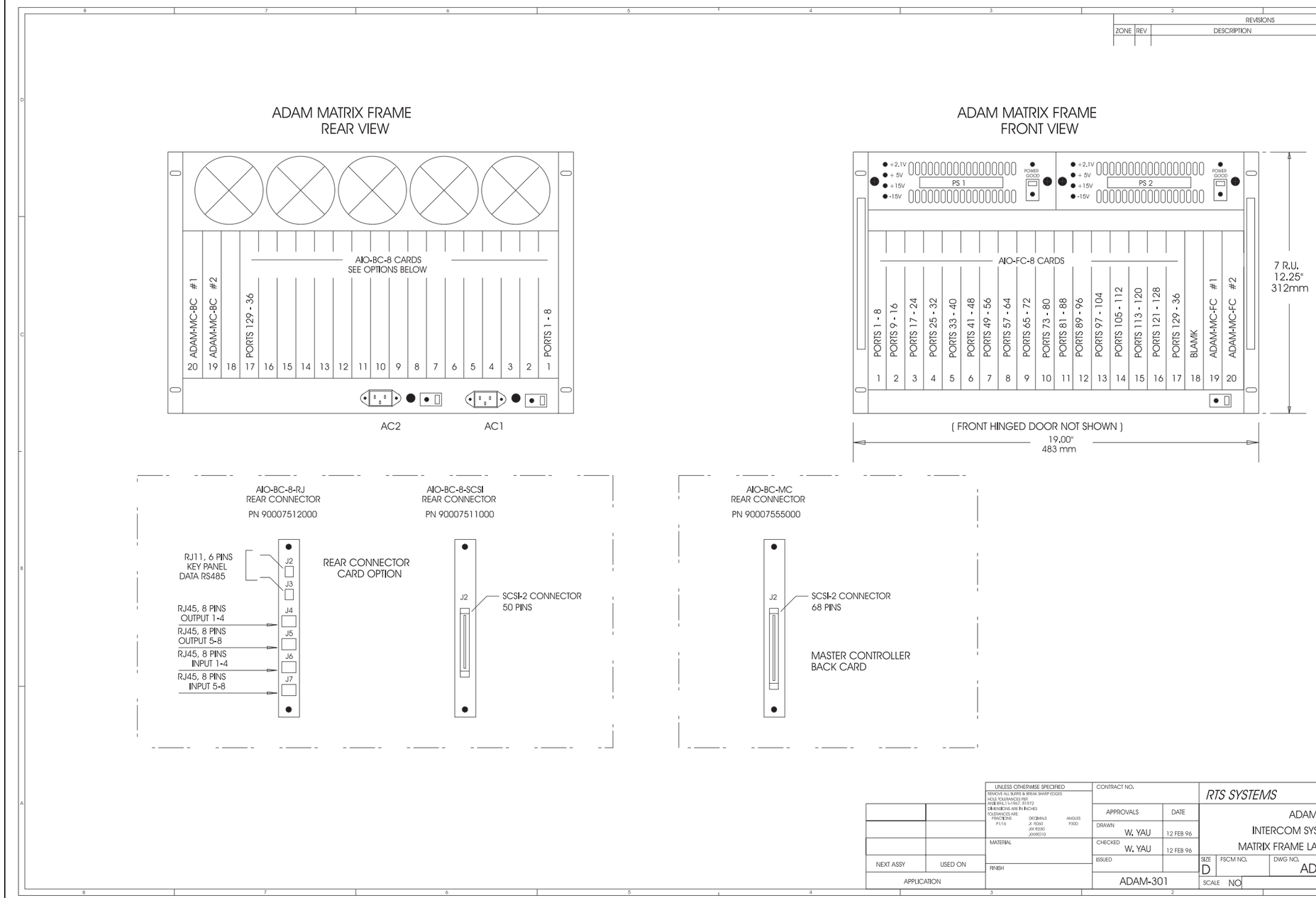
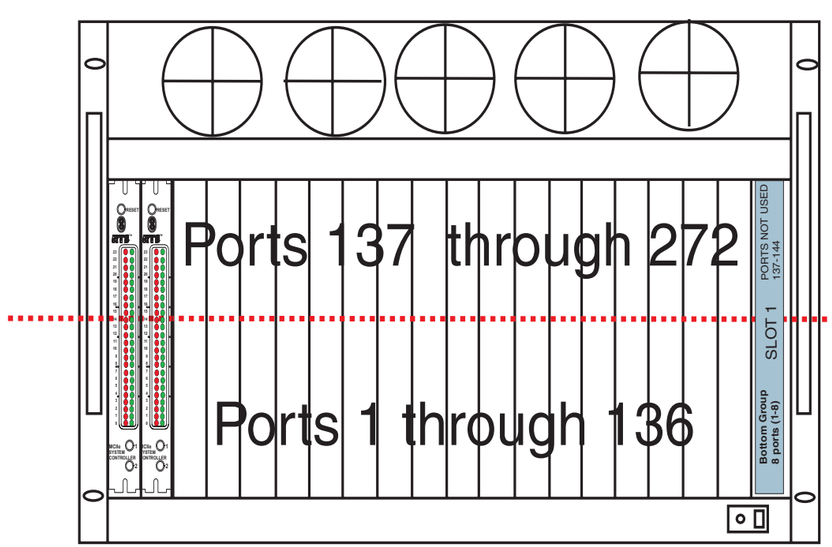
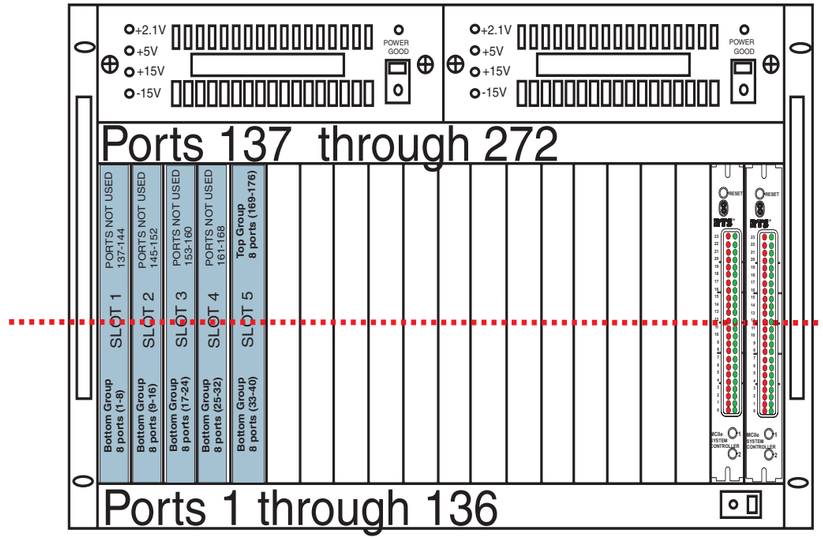
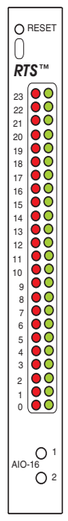


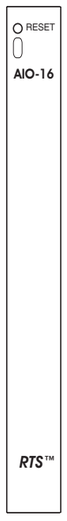
FIGURE 12. ADAM Intercom System Matrix Frame Layout - AIO-16



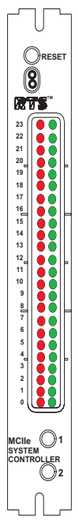




AIO-16 Front Card Plate with LED Board



AIO-16 Front Card Plate (Standard)



MCII-e Front Card Plate, Master Controller

AIO-16 Back Card Plate, SCSI

AIO-16 Back Card Plate, MDR

FIGURE 13. ADAM-801 ADAM Intercom System Audio Input / Output / Data 50 Pins SCSI-2 Cable

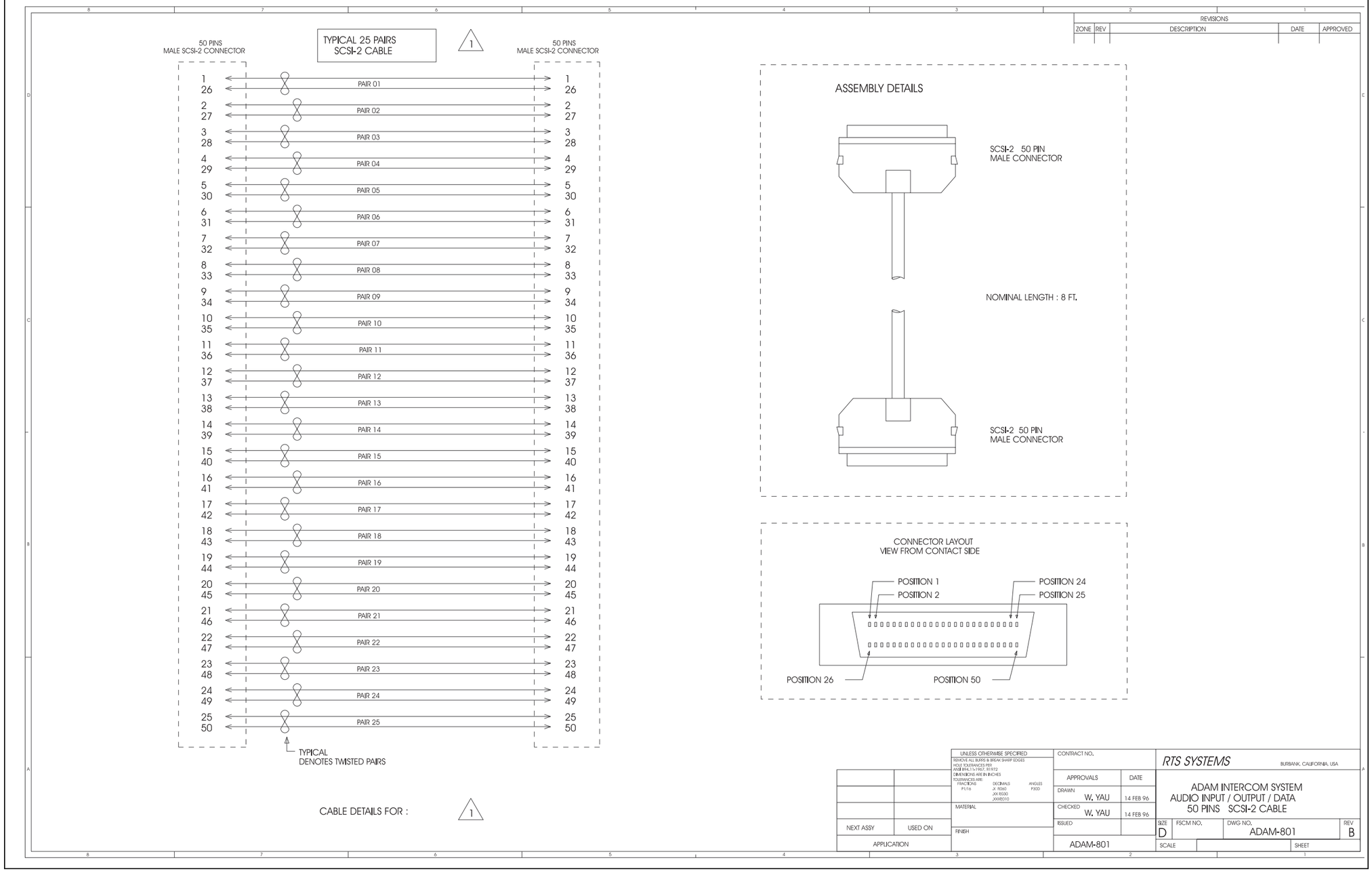


FIGURE 14. ADAM-802 ADAM Intercom System Audio Input / Output 25 Pairs Telco Cable

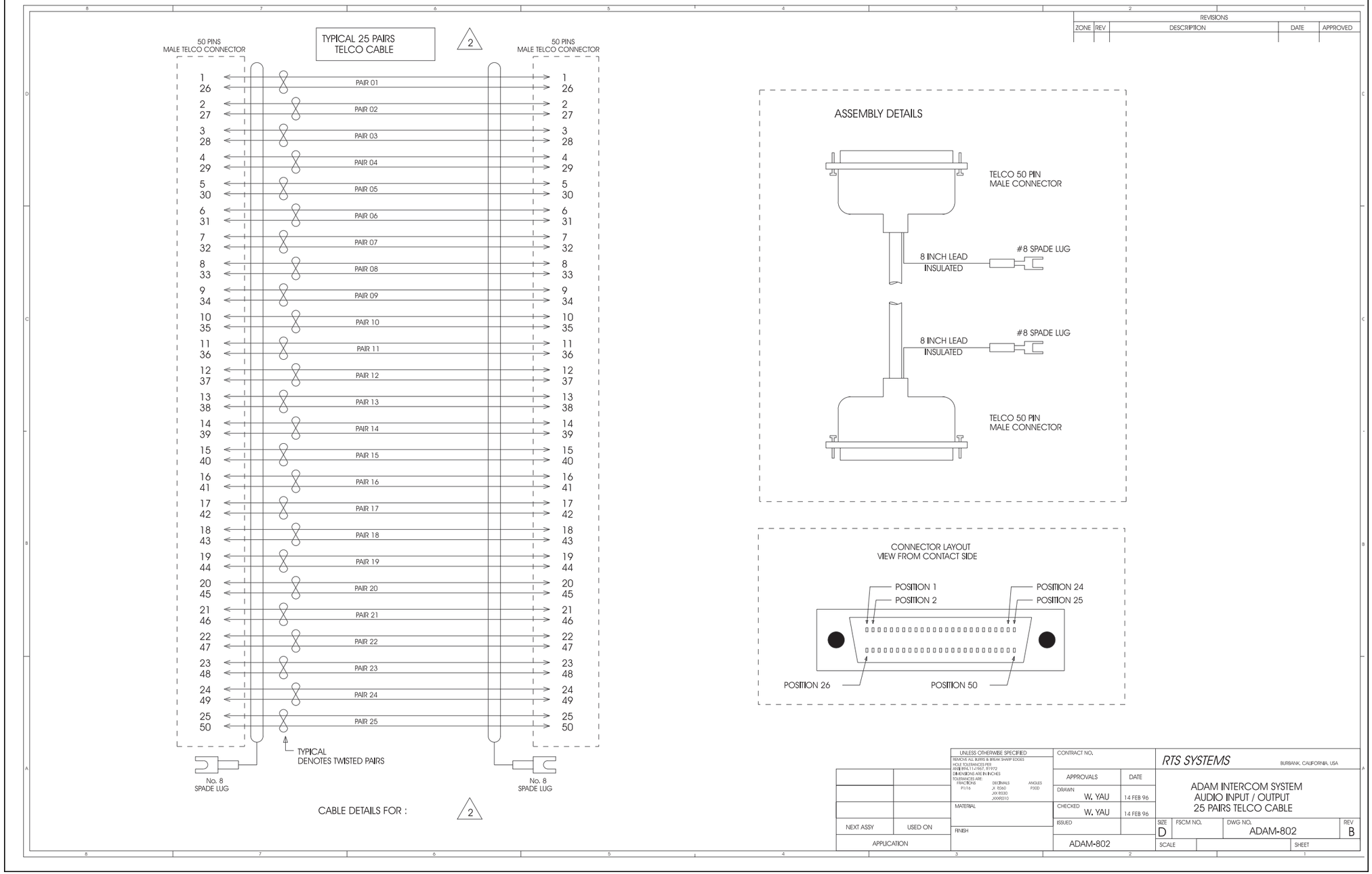


FIGURE 15. ADAM-803 ADAM Intercom System Audio Input / Output 25 Pairs to RJ-45 Cable

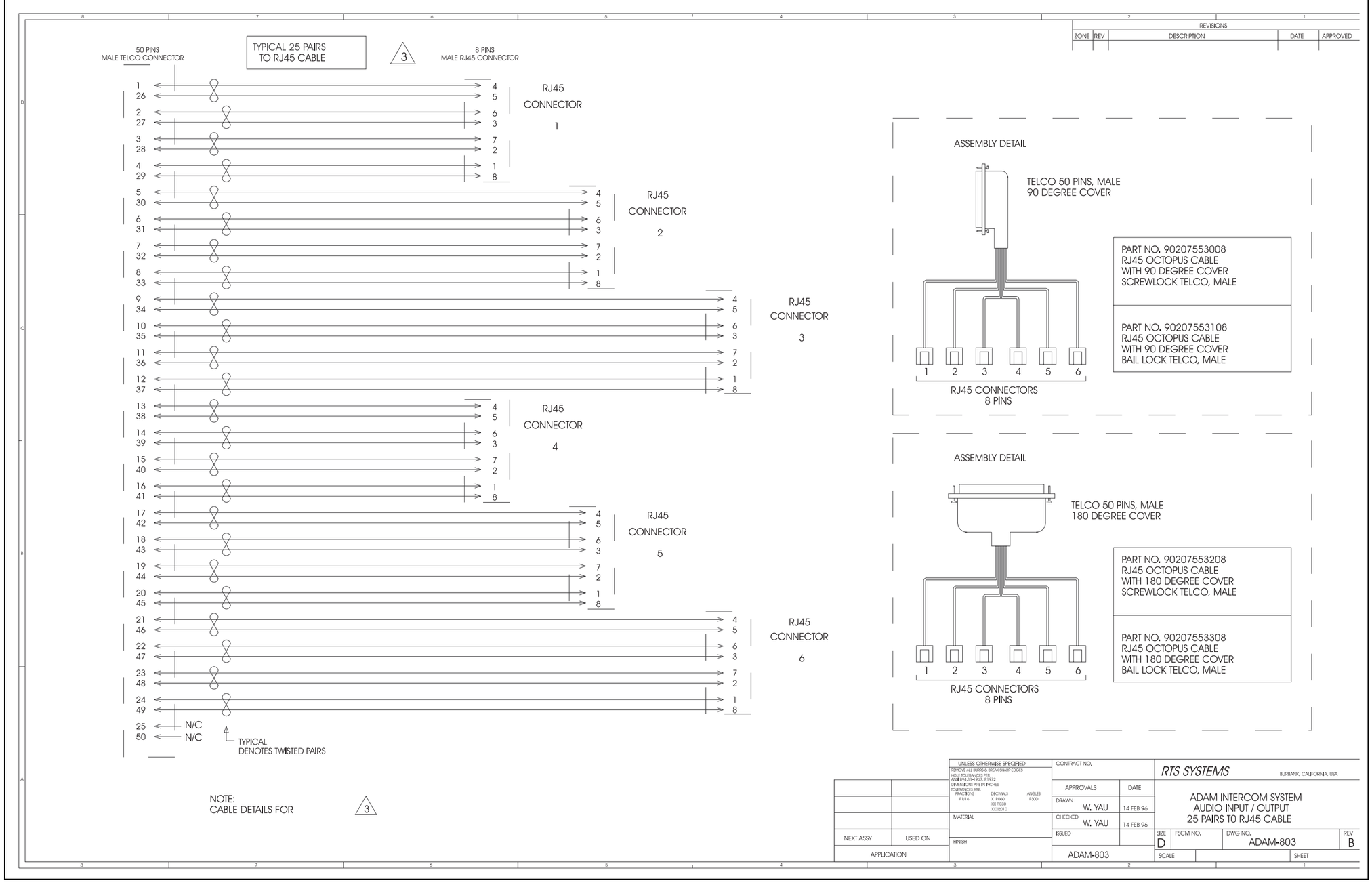


FIGURE 16. ADAM-804 ADAM Intercom Matrix RJ11 to 50 Pins Telco Translation Cable

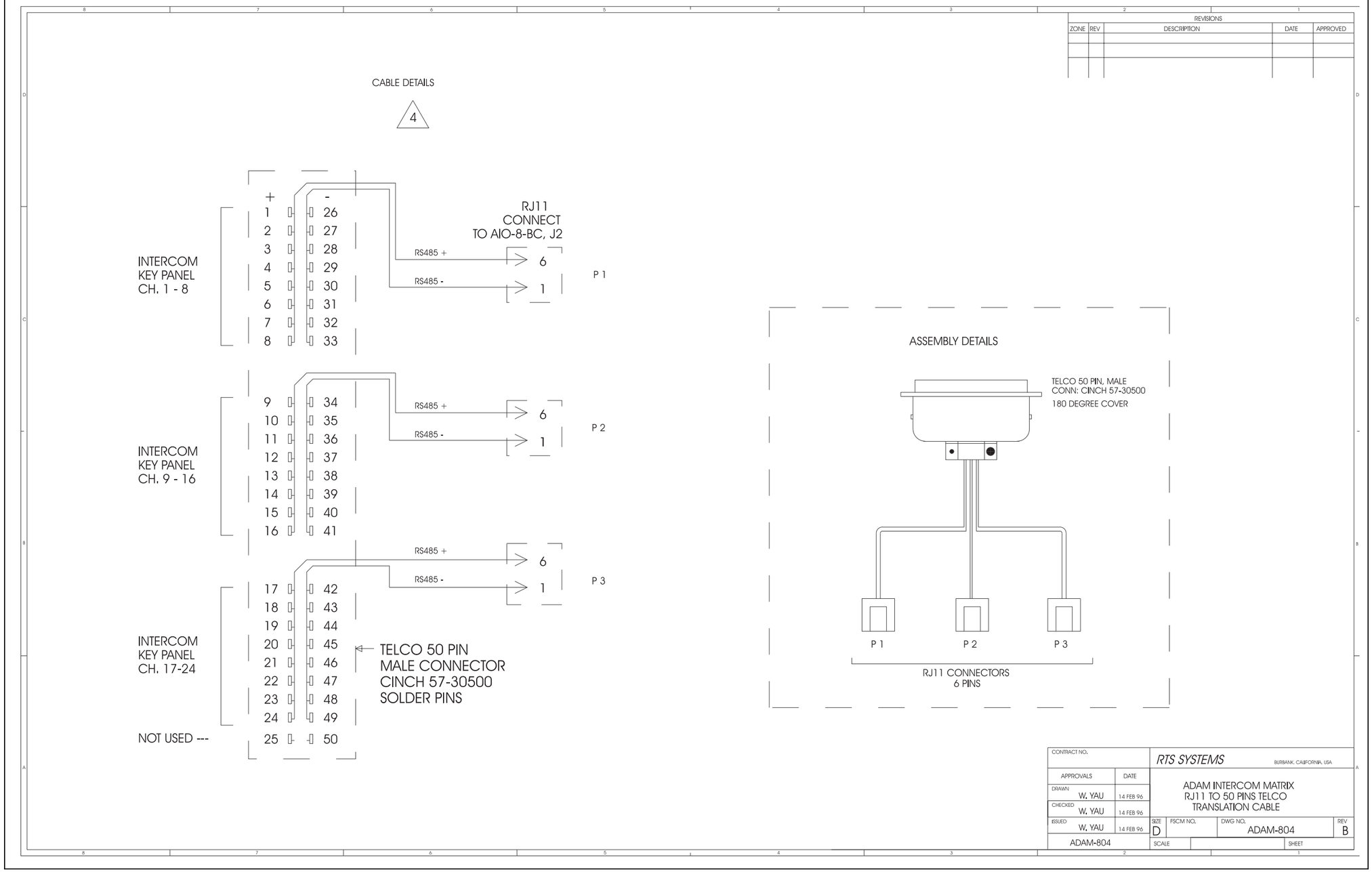


FIGURE 17. ADAM-805 ADAM Intercom Matrix DB9 to 50 Pins Telco Translation Cable

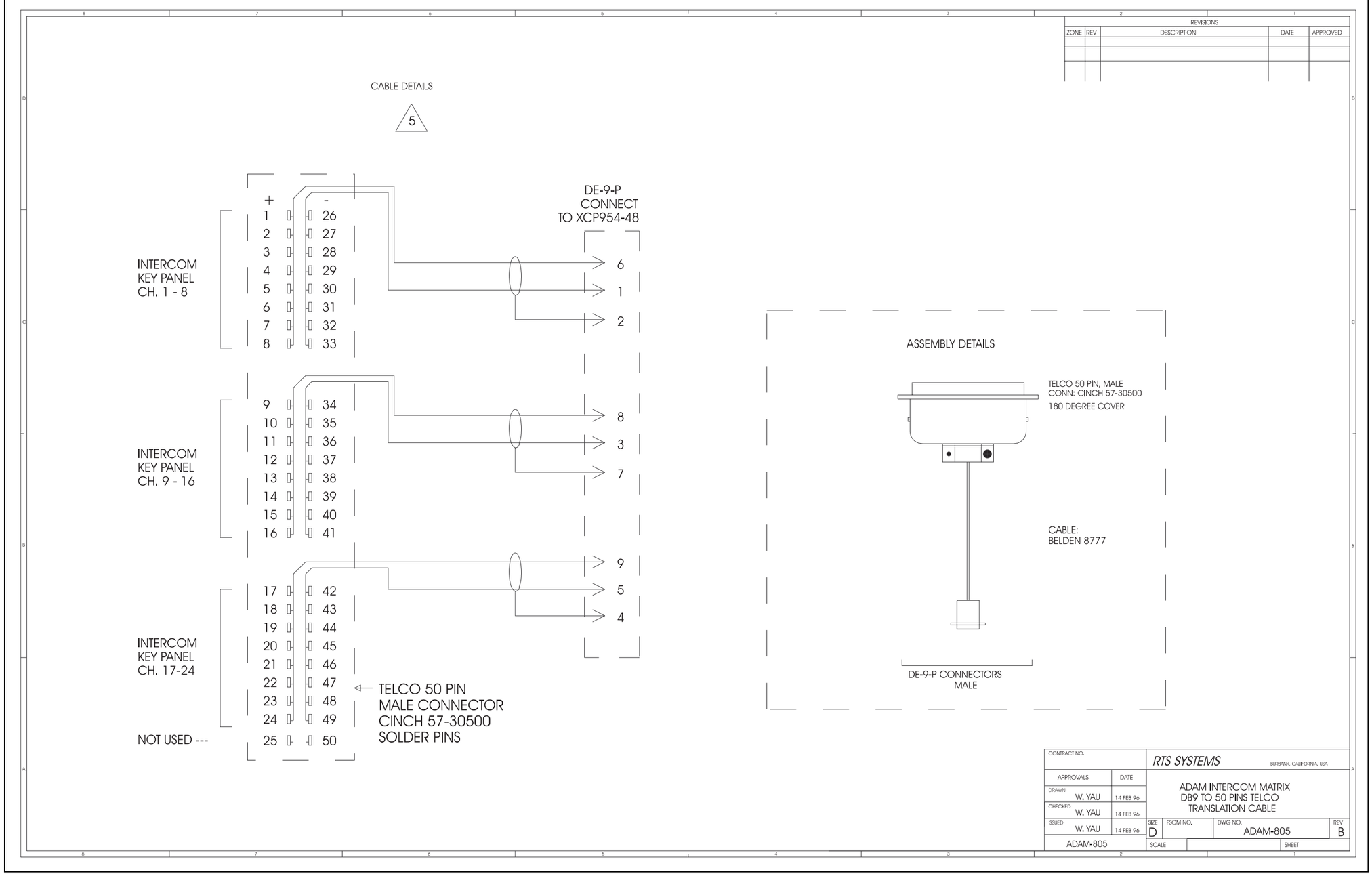


FIGURE 18. ADAM-806 ADAM Intercom System Master Controller 68 Pins SCSI-2 Cable

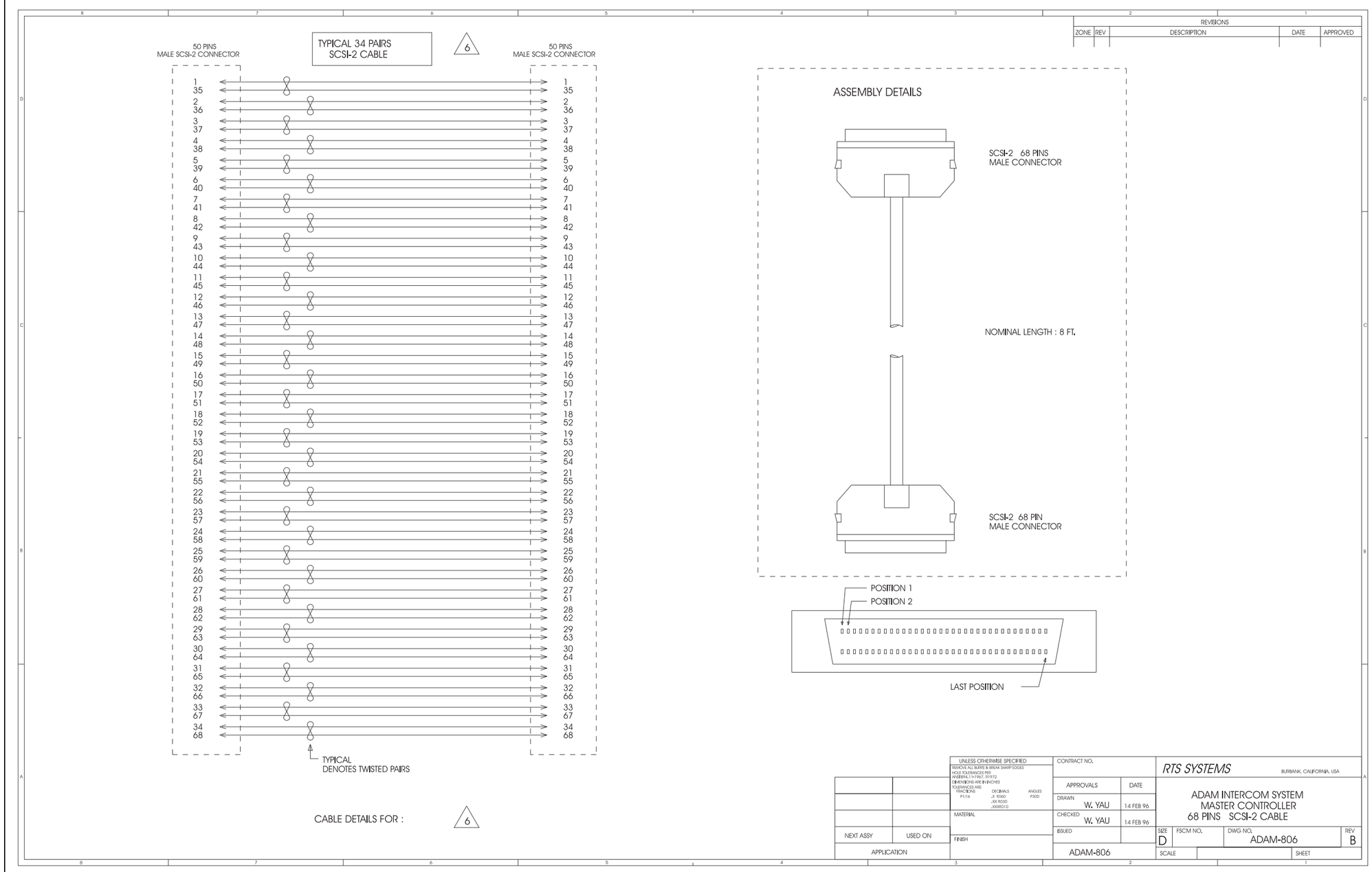


FIGURE 19. ADAM-807 ADAM Intercom System AZedit to PC RS-232-C Cable

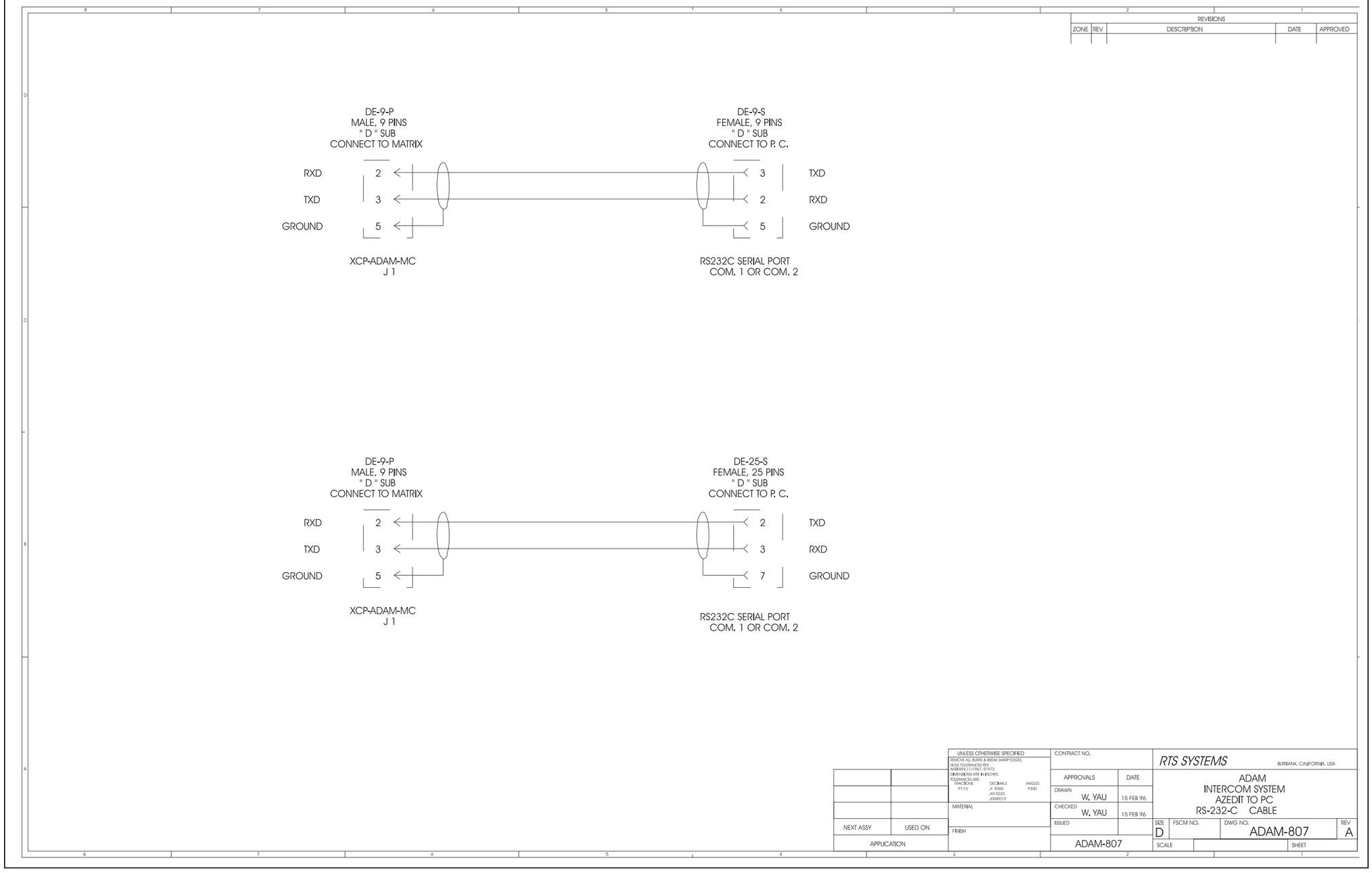
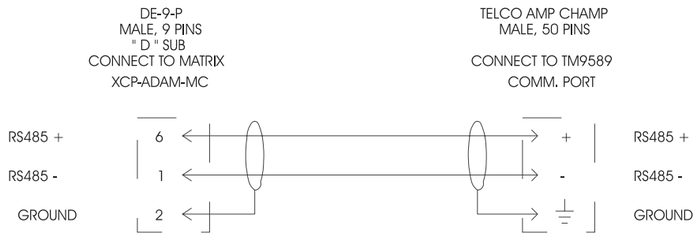


FIGURE 20. ADAM-808 ADAM Intercom System Matrix to Trunk aster RS-485/ RS232C Cable

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



TM 9589
TRUNK MASTER CONTROLLER
COMMUNICATION PORTS
ASSIGNMENT TABLE
RS485 SERIAL

CONN.	PIN +	PIN -	GROUND	COMM	TYPE
J5	27	2	3	1	RS485
J5	30	5	28	2	RS485
J5	32	7	8	3	RS485
J5	35	10	33	4	RS485
J5	37	12	13	5	RS485
J5	40	15	38	6	RS485
J5	42	17	18	7	RS485
J5	45	20	43	8	RS485
J4	27	2	3	9	RS485
J4	30	5	28	10	RS485
J4	32	7	8	11	RS485
J4	35	10	33	12	RS485
J4	37	12	13	13	RS485
J4	40	15	38	14	RS485
J4	42	17	18	15	RS485
J4	45	20	43	16	RS485
J3	27	2	3	17	RS485
J3	30	5	28	18	RS485
J3	32	7	8	19	RS485
J3	35	10	33	20	RS485
J3	37	12	13	21	RS485
J3	40	15	38	22	RS485
J3	42	17	18	23	RS485
J3	45	20	43	24	RS485

TM 9589
TRUNK MASTER CONTROLLER
COMMUNICATION PORTS
ASSIGNMENT TABLE
RS232C SERIAL

	CONN.	PIN +	PIN -	GROUND	COMM	TYPE
		SELECTABLE BY JUMPER SETTING ON FC9588-IOU CARD (TOP CARD)				
*	J5	46	21	22	7	RS232C
*	J5	49	23	48	8	RS232C
		SELECTABLE BY JUMPER SETTING ON FC9588-IOU CARD (CENTER CARD)				
*	J4	46	21	22	15	RS232C
*	J4	49	23	48	16	RS232C
		SELECTABLE BY JUMPER SETTING ON FC9588-IOU CARD (BOTTOM CARD) FACTORY DEFAULT SETTING				
*	J3	46	21	22	23	RS232C
*	J3	49	23	48	24	RS232C

Note:
1 -- J3, J4, J5 ARE AMP CHAMP 50 PIN FEMALE CONNECTORS ON TM9589

2 -- COMM. PORT 7, 8, 15, 16, 23, 24 ARE SELECTABLE FOR RS485 OR RS232C.

FACTORY DEFAULT SETTING : COMM. 7, 8, 15, 16 = RS485, COMM. 23, 24 = RS232C.

NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED
REMOVE ALL BURRS & BREAK SHARP EDGES
HOLE TOLERANCES PER ANSI B94.11-1967, 01972
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS P1/16 | DECIMALS .X ±060 .XX ±030 .XXX ±010 | ANGLES P30D
MATERIAL
FINISH

CONTRACT NO.

APPROVALS	DATE
DRAWN W. YAU	15 FEB 96
CHECKED W. YAU	15 FEB 96
ISSUED	

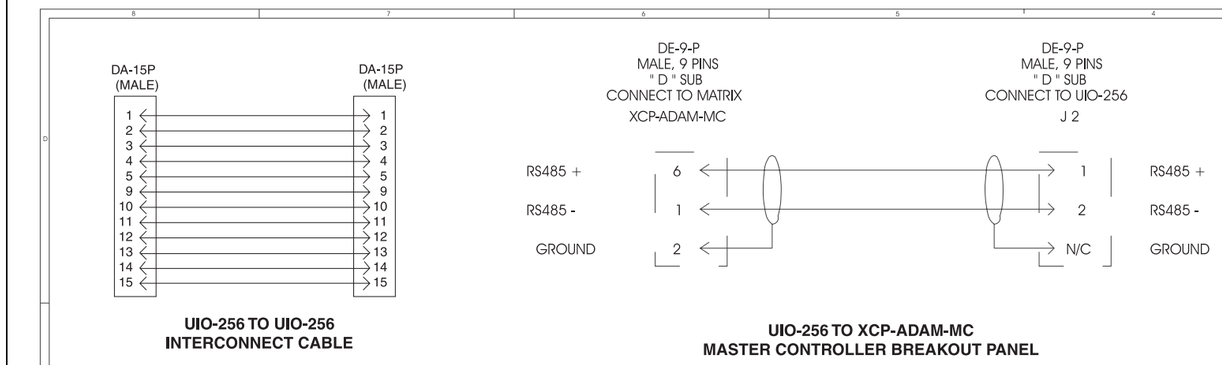
ADAM-808

RTS SYSTEMS BURBANK, CALIFORNIA, USA

ADAM
INTERCOM SYSTEM
MATRIX TO TRUNK MASTER
RS-485 / RS232C CABLE

SIZE	FSCM NO.	DWG NO.	REV
D		ADAM-808	A
SCALE		SHEET	

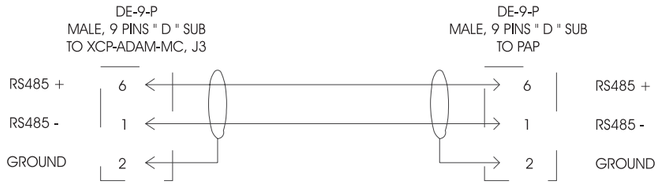
FIGURE 21. ADAM-809 ADAM Intercom System UIO-256 and PAP Cables



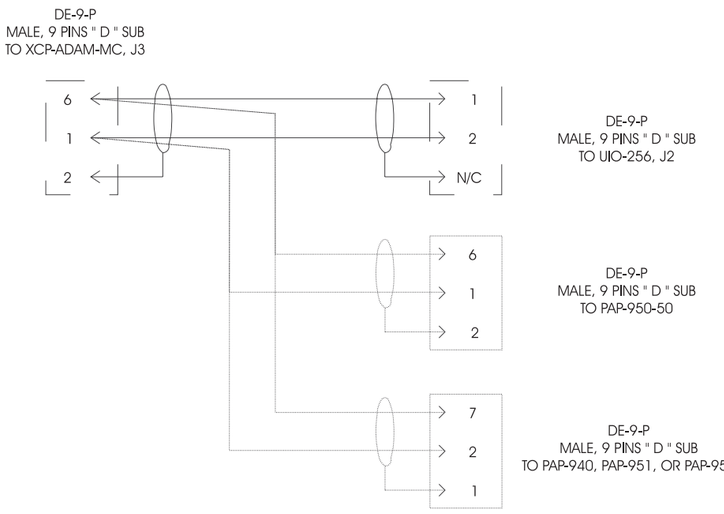
UIO-256 TO UIO-256
INTERCONNECT CABLE

UIO-256 TO XCP-ADAM-MC
MASTER CONTROLLER BREAKOUT PANEL

PAP-940, PAP-951, OR PAP-952 TO XCP-ADAM-MC
MASTER CONTROLLER BREAKOUT PANEL



PAP-950-50 TO XCP-ADAM-MC
MASTER CONTROLLER BREAKOUT PANEL



COMMONING CABLE FOR CONNECTION OF UIO-256 AND PAP
TO XCP-ADAM-MC MASTER CONTROLLER BREAKOUT PANEL

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED

NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED
REMOVE ALL BURRS & BREAK SHARP EDGES
HOLE TOLERANCES PER
ANSI B94.11-1967, B1972
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS P1/16 DECIMALS .X ±.060 .XX ±0.030 .XXX±0.010 ANGLES ±30D
MATERIAL
FINISH

CONTRACT NO.

APPROVALS	DATE
DRAWN W. YAU	15 FEB 96
CHECKED W. YAU	15 FEB 96
ISSUED	

ADAM-809

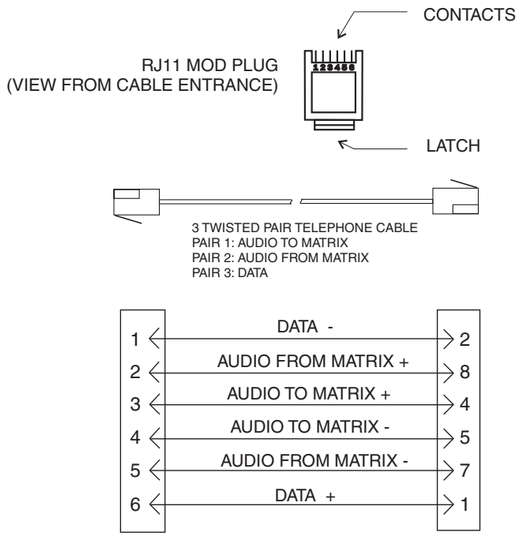
RTS SYSTEMS BURBANK, CALIFORNIA, USA

ADAM
INTERCOM SYSTEM
UIO-256 AND PAP CABLES

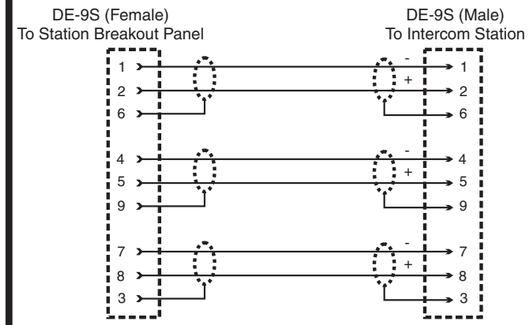
SIZE	FSCM NO.	DWG NO.	REV
D		ADAM-809	A

SCALE SHEET

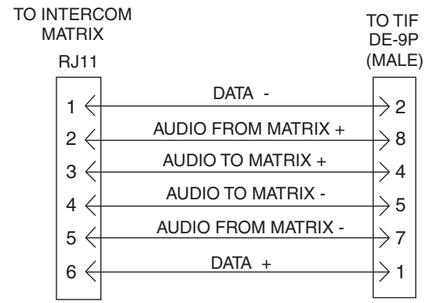
FIGURE 22. Intercom Station Cables


CONTACTS
RJ11 MOD PLUG
(VIEW FROM CABLE ENTRANCE)
LATCH
3 TWISTED PAIR TELEPHONE CABLE
PAIR 1: AUDIO TO MATRIX
PAIR 2: AUDIO FROM MATRIX
PAIR 3: DATA
1 DATA - 2
2 AUDIO FROM MATRIX + 8
3 AUDIO TO MATRIX + 4
4 AUDIO TO MATRIX - 5
5 AUDIO FROM MATRIX - 7
6 DATA + 1

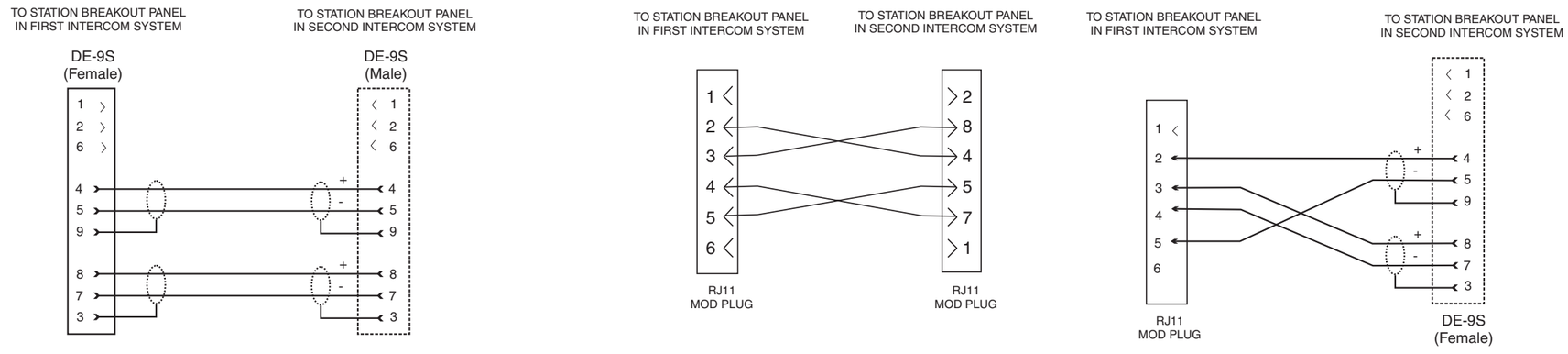
RJ-11 Intercom Cable



9-Pin D-Sub Intercom Cable


TO INTERCOM MATRIX
RJ11
TO TIF DE-9P (MALE)
1 DATA - 2
2 AUDIO FROM MATRIX + 8
3 AUDIO TO MATRIX + 4
4 AUDIO TO MATRIX - 5
5 AUDIO FROM MATRIX - 7
6 DATA + 1

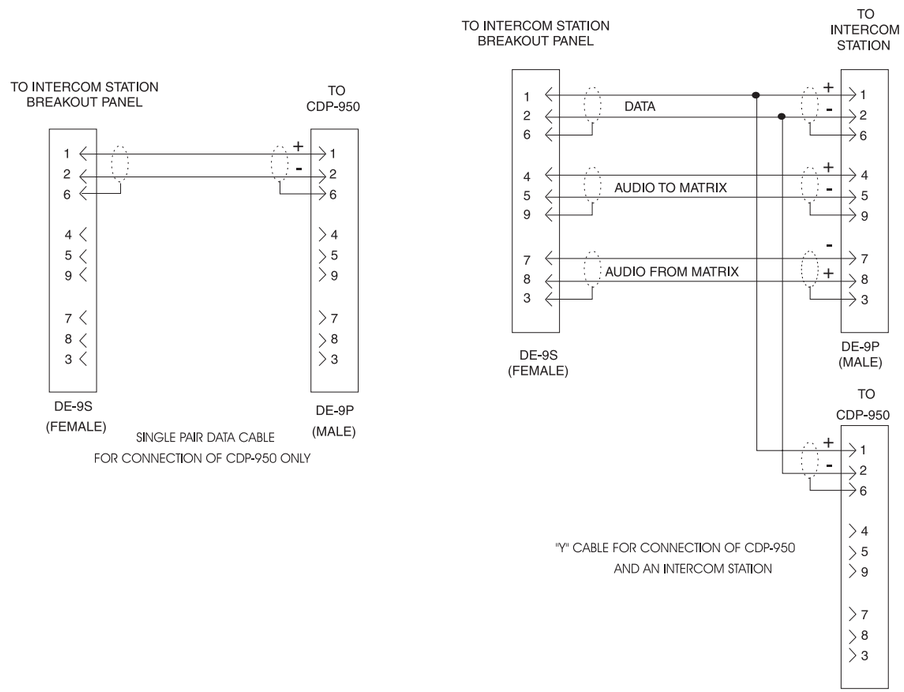
RJ-11 to 9-Pin D-Sub Intercom Cable For Connection of the TIF to an RJ-11 Style Station Breakout Panel



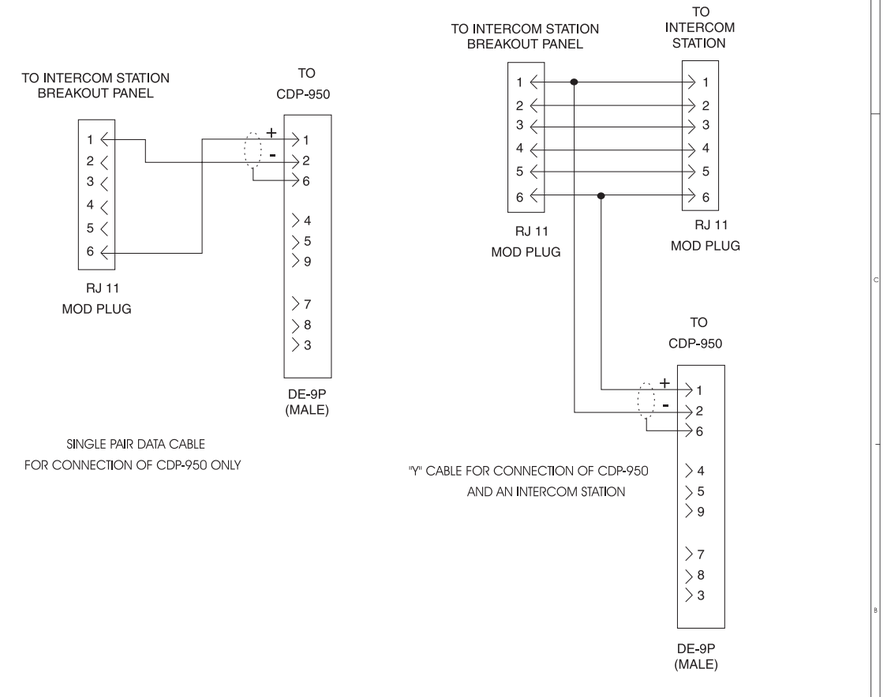
Intercom Audio Cables for Trunking Interconnect

FIGURE 23. ADAM-811 ADAM Intercom System CDP-950 Cables

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



CDP-950 CABLES FOR CONNECTION TO INTERCOM STATION BREAKOUT PANELS WITH 9-PIN D-SUB CONNECTORS



CDP-950 CABLES FOR CONNECTION TO INTERCOM STATION BREAKOUT PANELS WITH RJ-11 CONNECTORS

NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED
REMOVE ALL BURRS & BREAK SHARP EDGES
HOLE TOLERANCES PER ANSI B94.11-1967, 01972
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS ±1/16 | DECIMALS .X ±0.60 .XX ±0.30 .XXX ±0.10 | ANGLES ±30D
MATERIAL
FINISH

CONTRACT NO.		
APPROVALS	DATE	
DRAWN W. YAU	15 FEB 96	
CHECKED W. YAU	15 FEB 96	
ISSUED		
ADAM-811		

RTS SYSTEMS BURBANK, CALIFORNIA, USA

ADAM
INTERCOM SYSTEM
CDP-950 CABLES

SIZE	FSCM NO.	DWG NO.	REV
D		ADAM-811	A
SCALE		SHEET	